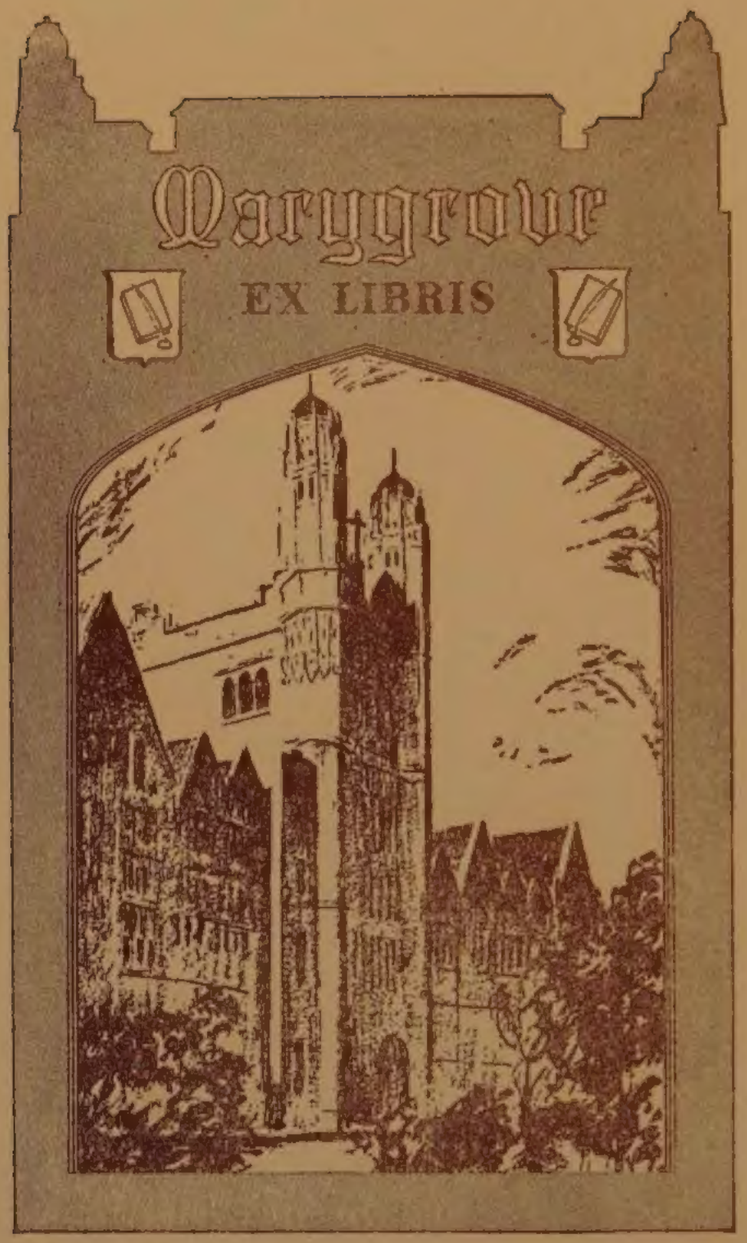

CONCERNING TOWN PLANNING

CONCERNING TOWN PLANNING

By

LE CORBUSIER pseud. of

C. E. Jeanneret-Gris.

Translated by Clive Entwistle

From the French *Propos D'Urbanisme*

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TRANSLATOR'S INTRODUCTION

The following notes are to introduce, not this book (the origin of which is fully explained by the author in Part 3) but, to those who may not know much about him, the man who wrote it. Le Corbusier's name has now almost household currency in England, but his principles and achievements remain little known and less understood. Hitherto only two of his many books have been translated into English and they date from 1923 *and* 1927. *Twenty years later he is writing with as much perception and freshness as ever, and this, the first to appear in English, is only one of several for which he has been responsible since the war.*

Le Corbusier is a French architect forming part of the Swiss, Charles Edouard Jeanneret. Le Corbusier is not a man, but an ideal. These two distinctions, upon which Le Corbusier himself insists, are essential to an understanding of his plastic and literary work and aims.

When Mr. Jeanneret was a young man, the French art critic, artist and editor, Ozenfant, invited him to subscribe articles to a review setting forth his notions on what new direction and form art and architecture might or should take. So tremendously did this question and this occasion stir Mr. Jeanneret, and so fierce were his sentiments, that he found when they were set down, that they constituted a standard which in its intensity and precision transcended all that his everyday label connoted. He therefore signed this statement of his ideal with a different name and he chose that of a French forbear, Le Corbusier. The name Le Corbusier, from signifying an ideal, gradually came to be an overseer, strictly controlling the professional life of Mr. Jeanneret; maintaining a standard, prompting this avowal, forbidding that expedient.

Mr. Jeanneret, though born in Switzerland, was of French stock. But Le Corbusier was born and baptised in France, French in roots and in flower. His lyricism, passion, flamboyance, lightness and profusion, his studied masculinity, are all French, not Swiss, in kind. This is worth mentioning because if you start off with the common opinion that Le Corbusier is a Swiss, you put an extra distance between him and your understanding of him.

Of Le Corbusier's host, Mr. Jeanneret, I have heard an elderly Frenchman say, "He is one of Nature's saints." "Saint" has the wrong

connotation for English ears. I do not know what incorruptible means in human terms, but he is certainly uncorrupted. His genius still remains very largely within covers, and in the understanding of those for whom the name Le Corbusier brings a certain elation of mind, and a keen emotional respect.

To the atelier at 35 Rue de Sevres in Paris young men, gathered by Le Corbusier's books, have travelled to work from every continent. In North and South America, in South Africa, in England and most countries of Europe, his influence is powerful and often too recognisable. He has probably been more plagiarised than any other modern master of any art. Respect has sometimes turned to envy or to fear, and more than one "modern" critic, resentful of a force he cannot share, has tried to damn by faint praise or mock at qualities too widely recognised to deny, by dubbing them clichés and above all by suggesting that they are already of retrospective or historical interest—or merely Utopian—rather than of present and future value.

His greatest projects, town-planning schemes, remain on paper : as must symbols of order in an unordered world. Lack of official recognition (only now at last accorded), and a lifetime of struggle and disappointment, have tempered and preserved him well. He remains strong, inventive, in firm maturity. He is now with Harrison in New York, preparing plans for the United Nations Headquarters building.

He is a gifted man, possessing an ability, lost in most men with their childhood, to see things with a fresh eye and mind ; not to become habituated to the idiocy of contemporary towns. He has a simplicity permitting perception. A vehement vigour, poetry and loyalty. His power of spatial invention is prodigious and I believe unmatched, and is all the more fecund and influential in view of his predilection for clearly crystallised form and for assertive colour.

His own sharp understanding gives him a rare gift for teaching, illustration and phrase-finding. His pre-occupation is with the "essential nature" of man—"good brother man" (Englishman, American, Frenchman). His "essential functions—living, working, cultivation of the body and the mind, circulation." His "essential joys—sun, space, verdure."

The impact of his ideas will inevitably shape our towns and affect our lives. Considerably and, perhaps, even soon.

CLIVE ENTWISTLE
London 1947

Part One

EPITOME

Towns are born, and grow throughout the ages ; they deform under the assaults of life. An evolution more or less serene is disturbed by the repercussions of successive inventions. The speed of life was 3½ miles per hour : the pace of man, of his ox, his horse, or his ass. An authentic harmony lived enshrined in those settlements, maintained in such intimacy with the human body and mind.

Suddenly, the steam-train ! Mechanised speeds ! A revolution at first latent—then bursting forth at a thousand points, and today a part of life. From 3 miles an hour, we passed to 30 or 60 (train or car) to 300 (passenger aircraft) to infinity (telegraph, telephone, radio).

Information became prodigious ; formerly restricted to a 25 mile circuit (the daily round), it is today without limits. Gutenburg had opened the Modern Age. Radio and the modern printing press established it.

Information, the calculus, experimental science, precision instruments, introducing an unimagined range of measurement, have achieved the CONQUEST OF METHODS and provoked the ANNIHILATION OF HARMONIES. A page has turned. After a hundred years of struggle, of tumult and chaos, of shame, a second stage of mechanisation commences : the era of harmony.

The rural tracts are emptied, villages and farms crumble in age ; a weariness has emptied the land and still drains it each day. The towns stretch out their tentacles. Fever, ill-ease, the crushing of man by his works : our mechanical civilisation amassed in default of a plan. The truth is—it was merely born.

Man has made mock of the provisions of nature, and the sport has cost him his life. The conditions of nature must be re-established in men's lives for the health of the body and the spirit.

A civilisation of production has been born. Our civilisation is not

nomadic, nor predatory, nor trading. This civilisation of production activates men and materials over the four routes that pervade the modern world :

the earth route,
the sea route,
the iron route,
the air route.

These routes occupy territory or fly over it. The first three are deeply rooted in topography. They follow inevitable courses : the earth and water routes, the iron routes. Throughout the ages, the first two established a rational network over the world. The third disrupted that system. The fourth poses immense problems. Not with impunity, as we know, did man replace his footsteps by a wheel. Not with impunity, as we shall learn, has man taken wings, and looked down from the sky with the eyes of a bird.

The pattern of settlement, disorganised by the locomotive and again by the automobile, will be changed once more by the aeroplane, when men, harmoniously relating their actions and enterprises with the four routes, will have defined the true conditions capable of sheltering their technical civilisation.

These conditions can be classified under the triple formula :

The Unit of Agricultural Production (food).
The Linear Industrial Town (manufacture).
The Radio-Concentric Social City (government, thought, commerce, distribution).

These three forms of human settlement governing the activities of modern society lead to a study of the present utilisation of land and to a rational and effective redistribution of the population ; in fact, to a general territorial stock-taking.

This determines which areas, lying henceforth beyond the reach of the four routes, shall be put to sleep, or allowed to sink towards an indeterminate, or determinate, extinction.

The elements of our problem are present and assembled :

machines,
communications,
information,
administration.

And a fundamental principle: the pristine state of man—man replaced in the conditions of nature.

"The machine for projecting men into adventure" has done its work ; all are in movement, or mobile. They have been snatched from their secular retreats, from old routines. And now perhaps we

arrive at the approaches to a synthesis. Profits are no longer our aim ; our aim can now be to turn our conquests to use. Man quits his melancholy, and turning away from misadventure, creates harmony : unity of man in his shell ; of the earth and his buildings ; the individual and the community ; man, nature, and the cosmos.

Problem posed at the dawn of the neo-technic era : ARCHITECTURE AND PLANNING, spirit and heartbeat of an epoch ; of nations, and of a civilisation. Architecture and planning.

Here, simply enunciated, are the elements of a phenomenon that is bursting from its shell :

routes :
functions : (living, working, cultivation of the body and mind), *i.e.* equipment ;
shelter : (of people, of things, of work, of institutions, of ideas), *i.e.* architecture.

The art of building :

technique : materials, methods (the means) ;
biology of construction : organs and organisms ;
psychology : sensibility, psycho-physiological reaction, security, the treasure of collected things. At the same time, the flood of inventions, joy of discovery, splendour and pangs of creation. Participation in action ; to move, to be in harmony with the signs of our time, to take part, to live, the notion of well-being.

Laws :

the laws of gravity and weight ;
the solar day of 24 hours, metronome of human activities ;
the seasons and the year ;
the rule of the sun (the sun is a primary phenomenon).

Principles :

sun, space, verdure ;
architecture develops from within outwards (the key of modern planning).

Wisdom :

perennial and transient ;
the permanent and the temporary.

Form :

planning : unity in detail, tumult in the grouping ;
proportion (the laws of number).

Calendar.

the steps, the intervals, the harmonic plan.

Finance :

defining the work of the tribe. Decision to carry it out for the common

good. The tribe sets itself to work to prevent flooding or to repair devastation. From necessity can result the obligation to work. The tribe consecrates the fruits of its work in a sacrificial feast, and rests.

Society :

the binomial " individual and collective " ; the well-being of man.

Politics :

the plan puts a key in the hand of authority, politics opens the door to life.

Etc., etc :

No lack of themes to study, of titles of chapters or of books.

No lack of solutions to find.

Here, in this little book, all these things will be implied : " To the good reader, greetings ! "

Paris, March 1945.

Part Two

AN UNPREMEDITATED GLANCE INTO THE PAST

Showing that in these matters a thousand themes are broached because they are interrelated, town-planning, the social matrix par excellence, being the true expression of the material and spiritual conditions of an epoch.

Here is Paris, an assembly of clear, bold organs, sane, rational and proportioned : the cathedral, scintillating technique, miraculous stature ;

the Sainte-Chapelle, an entire glass facade. The Chatelet, and the shop-lined bridges ; and the great Pont Neuf, yes, *n-e-u-f*, the word

giving pleasure on its baptism, and repudiating with its style, in a superb and thankless gesture, four centuries of Gothic.

Here then is Paris, where all live happily together.

Here—Venice, Saint Mark's Square, set with the bright diamonds of successive epochs : the Old Courts, the New Courts, Romanesque St. Mark, with its Turkish cupolas, filmed with an independent Gothic tracery ; the Campanile—this fabulous Campanile (an architect, one day, dared to design it : so you read today the mind of Vignola !) ; the Ducal Palace on its pylons.

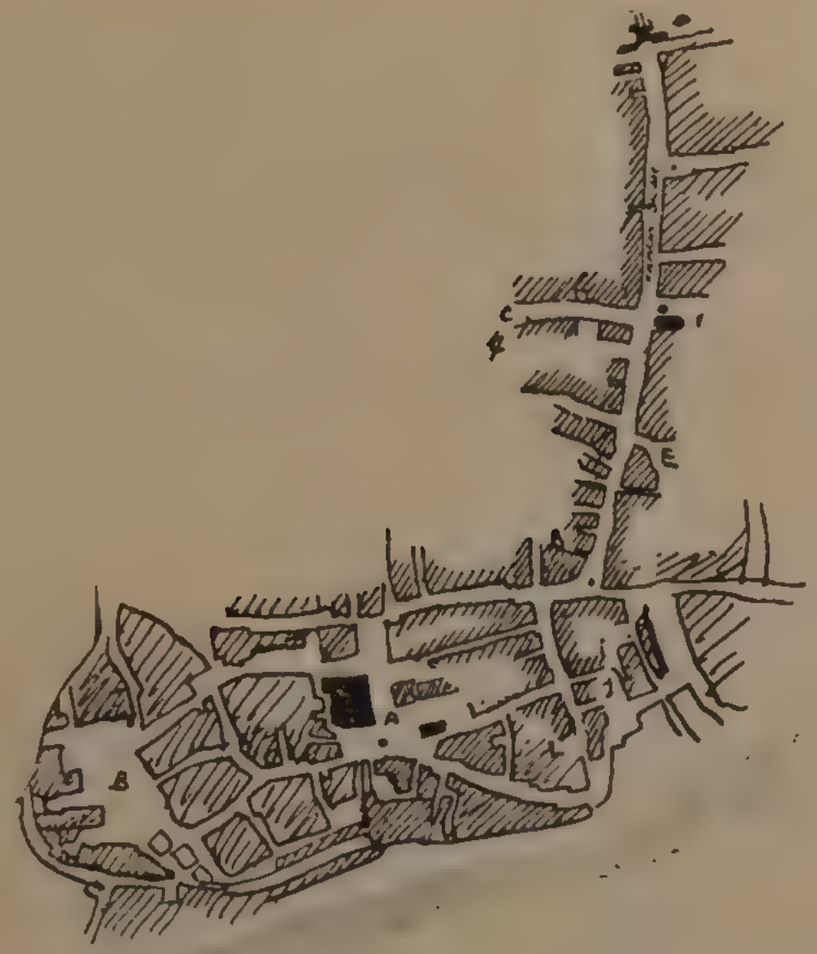
All these techniques, these different materials. But each new-comer had faith in his own adventure and, taking stock of his neighbours, risked . . . dared. . . .

Ulm (*facing page*). Towns are sometimes born of a command issued from a man's brain ; the Roman Camp. But almost always there has followed a slow and tenacious agglomeration around the pack-routes. These are two manifestations of life.

The human daemon appears on the battlefield of conflicting natural forces, and imposes "symmetry." By symmetry we understand equilibrium, and not counter-images. The Roman balance, with its unequal arms, is a good expression of symmetry.

In these old towns, grown from day to day, one sees the town-halls, the chapels, the fountains, each square for themselves a good site,

rubbing shoulders and creating varied and proportioned views. Streets, squares, alleys debouching on to streets, all merit attention.

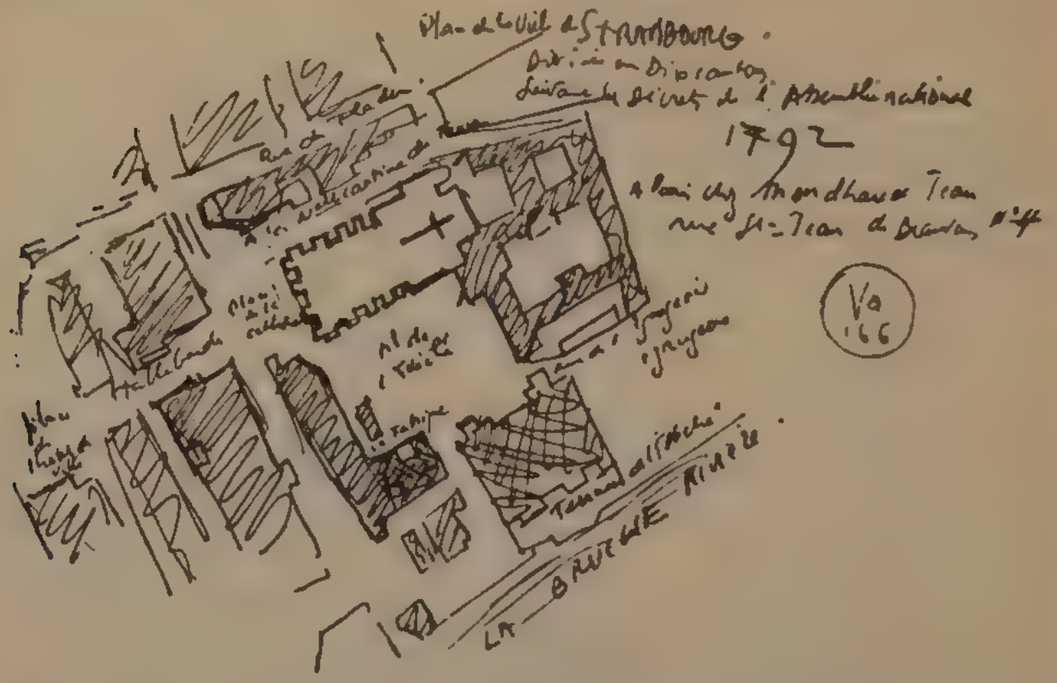


This was before carts. . . .

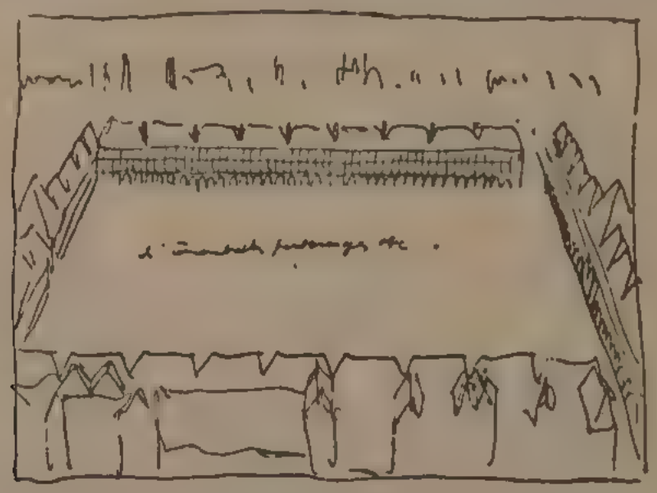
Strasbourg (*overleaf*). One squares oneself, one takes one's ease, one qualifies, one proportions. . . .

The poet and the sculptor, the man of culture, when even professionalism and the Academies were not quite false, multiply the occasions of enchantment : the Cathedral square is narrow, giving the spire a prodigious height. Measure the diversity with which the great stone vessel is presented. It is before the so-called "Classic" period. It is before designs were made *on paper*. Here is architecture modelled on the

spot. The paper plan leads the incapable and lazy to satisfy themselves with illusions.



Place des Vosges, Paris. Approaching classicism. Classic: to classify. One classifies a work after establishing that it incorporates



qualities that render it worthy of comparison with other reputed ideals. It becomes classic on its merits. One does not style a work classic in order to discredit the judgment of others. A work is decreed classic if it attains to the highest levels of thought. When the word was coined, its subjects already existed. The right to that epithet was accorded only to the Ancients, Greek or Latin.

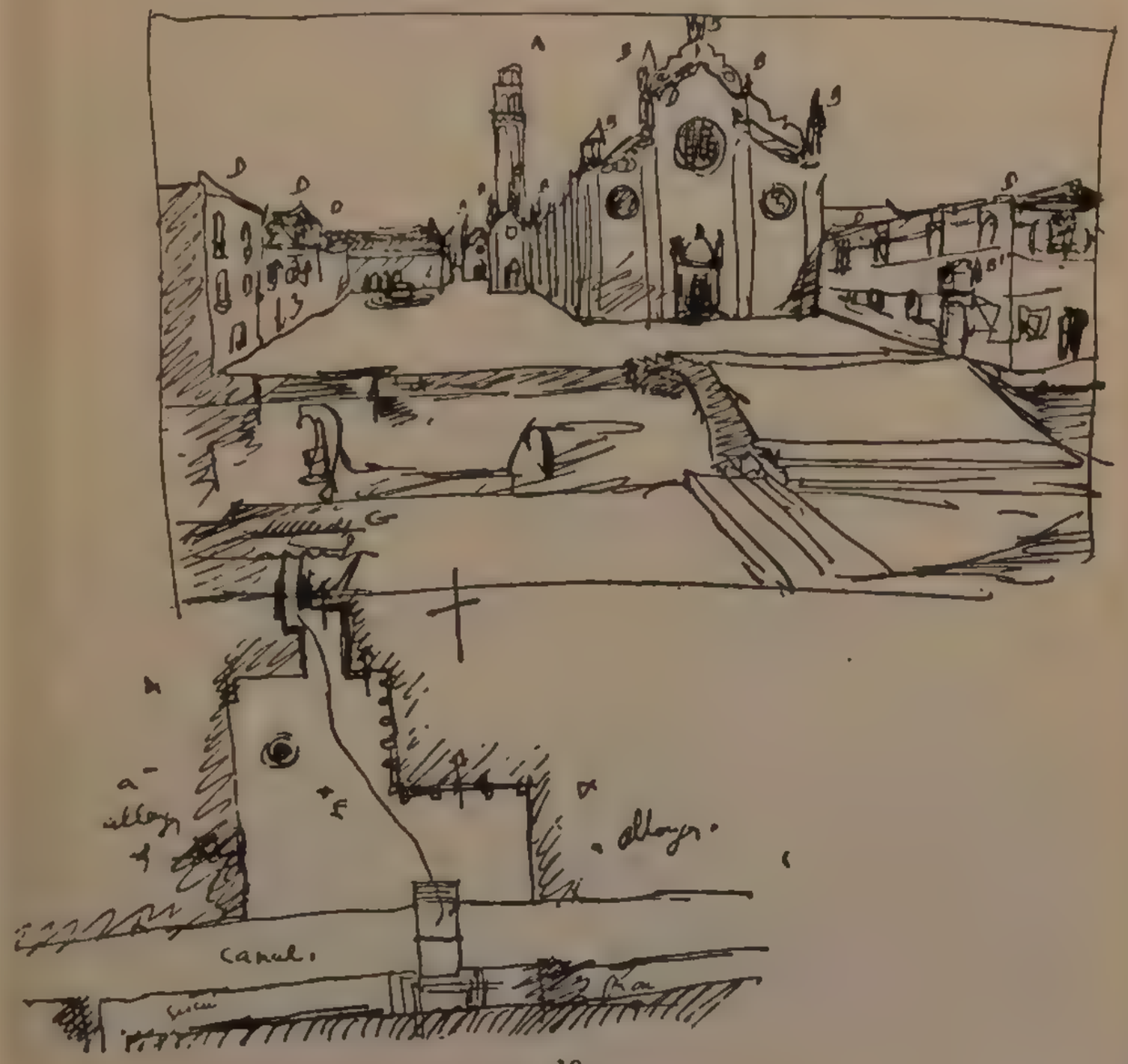
Then Academicism decided to arrogate to itself the right to pronounce a work classic and eternal, including thereby its own professors among the " immortals."

In escaping death, which is a law of nature, they put themselves also outside life ; they persisted by an artifice.

However, the notion of " classic " implies a tendency : rejection of the accidental and incidental ; manifestation of the most highly filtered qualities, a nobility and dignity of form. Thus the tendency.

And here we see its expression, in the tall tangle of Gothic Paris, crammed within its walls : the Place des Vosges, tailored from one piece, an act of will, of royal will : the master ordains.

Venice. Kings have made of classicism a symbol of gentility, of loftiness of mind, and sometimes of the iron glove. Of gentility above all :



an air of indifference and dispassionate calm ; of civility, in which all is proportioned to the human scale, without emphasis. This great manifestation of measure resulted from the exercise of a supreme force, of will ; today the feeble brandish its souvenirs about them, baubles of a second childhood, pious substitutes for the present exercise of force, of will, of measuring up to the scale of our times.

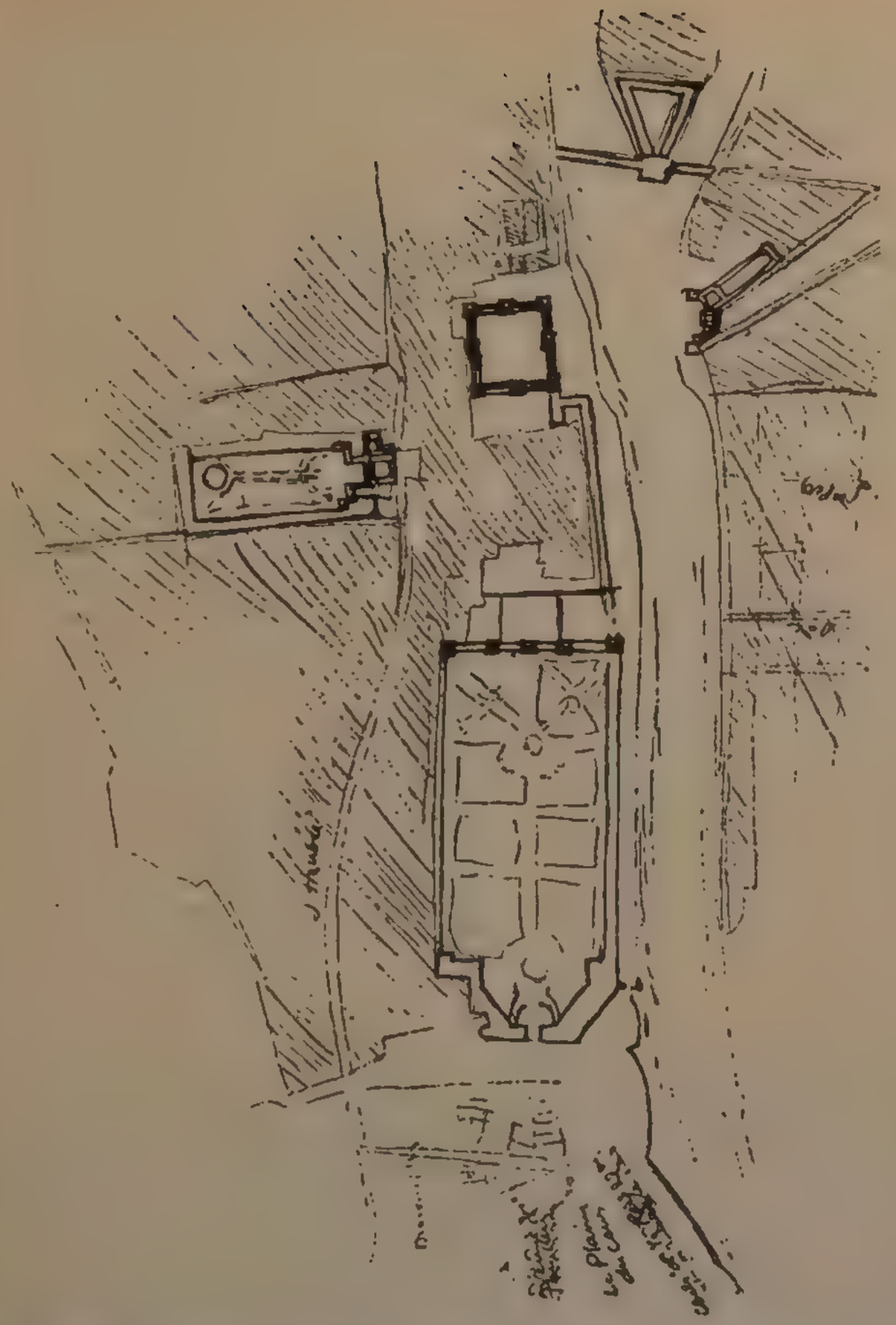
It is good, beside this spiritual dead-end : classicism (which carries within it the worm of sterility), to appreciate the more sensuous manifestations of architecture and town-planning. This little example from Venice carries a prodigious lesson. It is enough to look at the quay, the bridge over the canal and its approaches, the small square dominated by the church front, the large square with its cross and its fountain ; and the campanile and the shifting disappearance of the street. Moving towards classicism, but bursting with life.

Take life from classicism, nothing remains but a formula : academicism.

The Villa d'Este. Moving towards classicism, but pulsing with life. See here how architectural inventiveness makes use of the material conditions of the site : a site wild with incident. The slopes are

exploited, and the broken contours bridged. Left, the profile ; right, the face. The composition of the face is closed by the pure straight line of the roof.

Paris, 1676 (*facing page*). Nearing classicism. The free man (impelled only by his aspirations) orders and composes. The right angle is the primordial sign of the ordering and organising spirit. One sees, appearing in the heart of the outlandish town, a pure geometry. Certain town-planning theorists and pen-scratchers have denounced straight lines as being German : this was to undermine the modern movement which by elevation of spirit, and as an essential of production, makes use of the



right angle. These gentlemen reproach organised town-planning and architecture for its lack of accident, the unforeseen and unexpected.

The Tuileries and the Palais-Royal : kings try to insulate their homes by cutting encircling roads between them and the surrounding slums ; slums which lasted until the time of Balzac and Napoleon III.

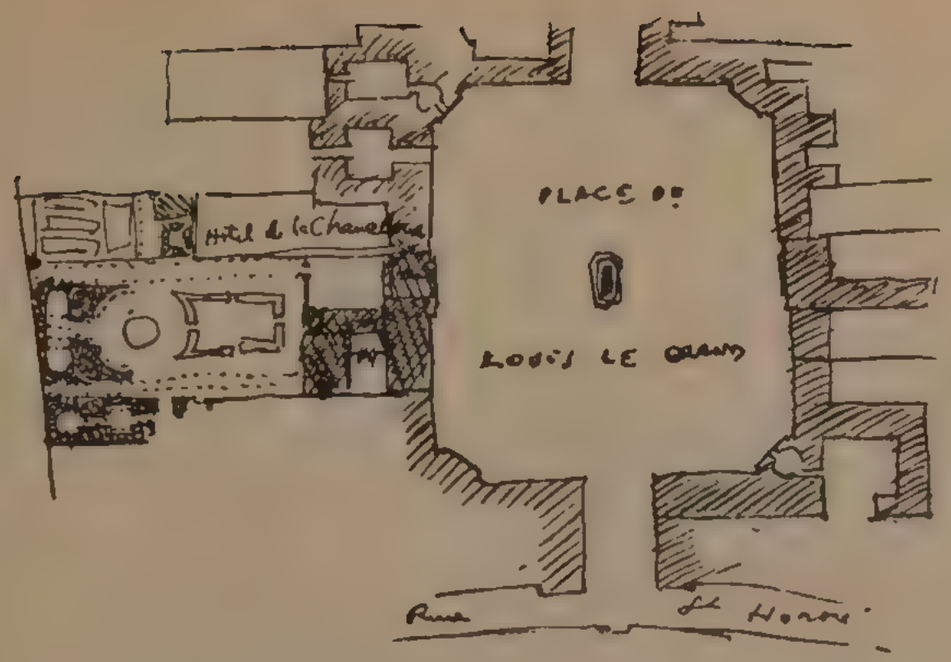
The Palais de l'Institut in Paris (formerly College Mazarin) (*below*). This act of will in the heart of the tangle of streets and contorted acres of Paris created a special mode of architectural treatment. Many masterpieces of invention have been provoked by the restraints of the site.

This is to become the special whim of the Parisian school : the practice (perhaps, the love) of sterile problems.

Against all sense, the habit of aligning buildings on the streets is to persist, creating the present practices : *alignment on the streets* and *enclosed courts and light wells*, two forms entirely contrary to human well-being, and to which the "Athens Charter"* has opposed the principle of architectural development from within to without.

Place Vendôme, Paris (previously Louis-le-Grand Square) (*facing page*). Here the streams of architecture and town-planning have joined to form a lake of repose in the bristling town compressed within its military walls ; an architectural fashion owing much to the interior decorator and the scenic designer flowered in the salons and the anterooms. Salons to the glory of kings and princes. A fashion that soon flourished in the provinces, abroad, wherever courts were held and courtiers dwelt.

*The Athens Charter is a summary of the physical conditions considered essential and beneficial to modern urban life, and a condemnation of the physical conditions considered to be destructive of urban life, health and happiness, as set down by the delegates to a meeting of CIAM (Congrès Internationaux d'Architecture Moderne) held in Athens in 1937.



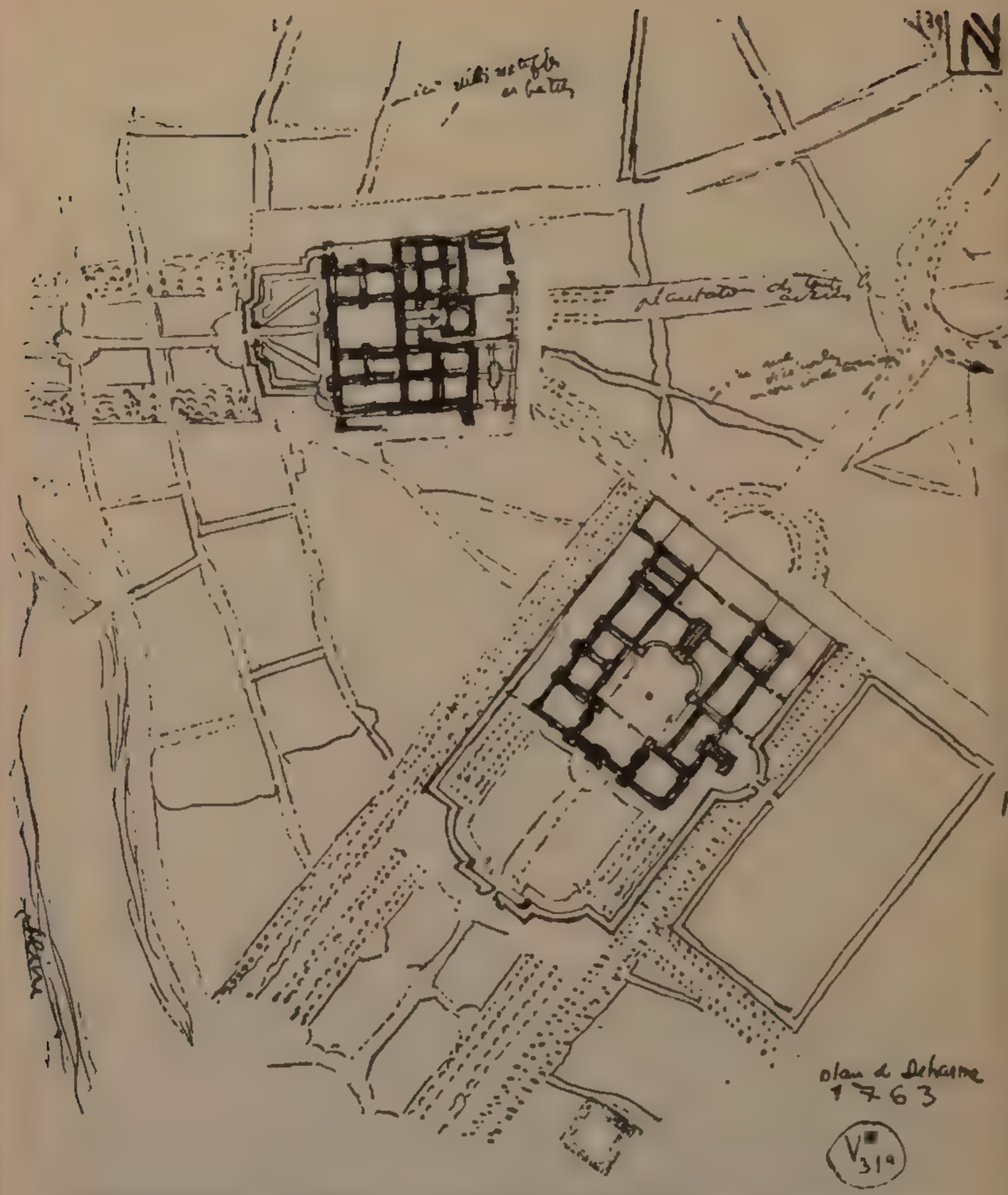
Paris, Invalides and Ecole Militaire. (*Overleaf*). Buildings on unrestricted sites developed on other lines. The spirit of order and commandment is the same, the same verve and grandeur, but in place of successive ante-chambers walling out the slums (hollows), palaces rise, growing from within to without, composing blocks of dwellings, naves and domes, surrounded by space, and now offering to the eye volumes under the sun (solids).

Hollows or solids are both lawful forms when they occur as expressions of a way of life.

The Capitol in Rome. (*page* 25, *top*). Between French Gothic art, sturdy, robust, and popular, and these manifestations of gentility on the part of grand seigneurs, stood Italy. Many generations had been in the habit of making the journey to Rome, the Papal centre, and absorbing her ancient culture.

In fact, the classicism of kings and princes was clothed with mere reflections of the culture of antiquity. We may digress on this clothing. The game had its perils. The source was the Parthenon in Athens ; Rome was often only a despoiling parvenue. If her town-planning was grandiose (Europe is covered with it), her artists were not above discussion. And Rome of the Grand Renaissance was fated to a personal ostentation, that of the Pope. Here, certainly, we have a right to reserve judgment.

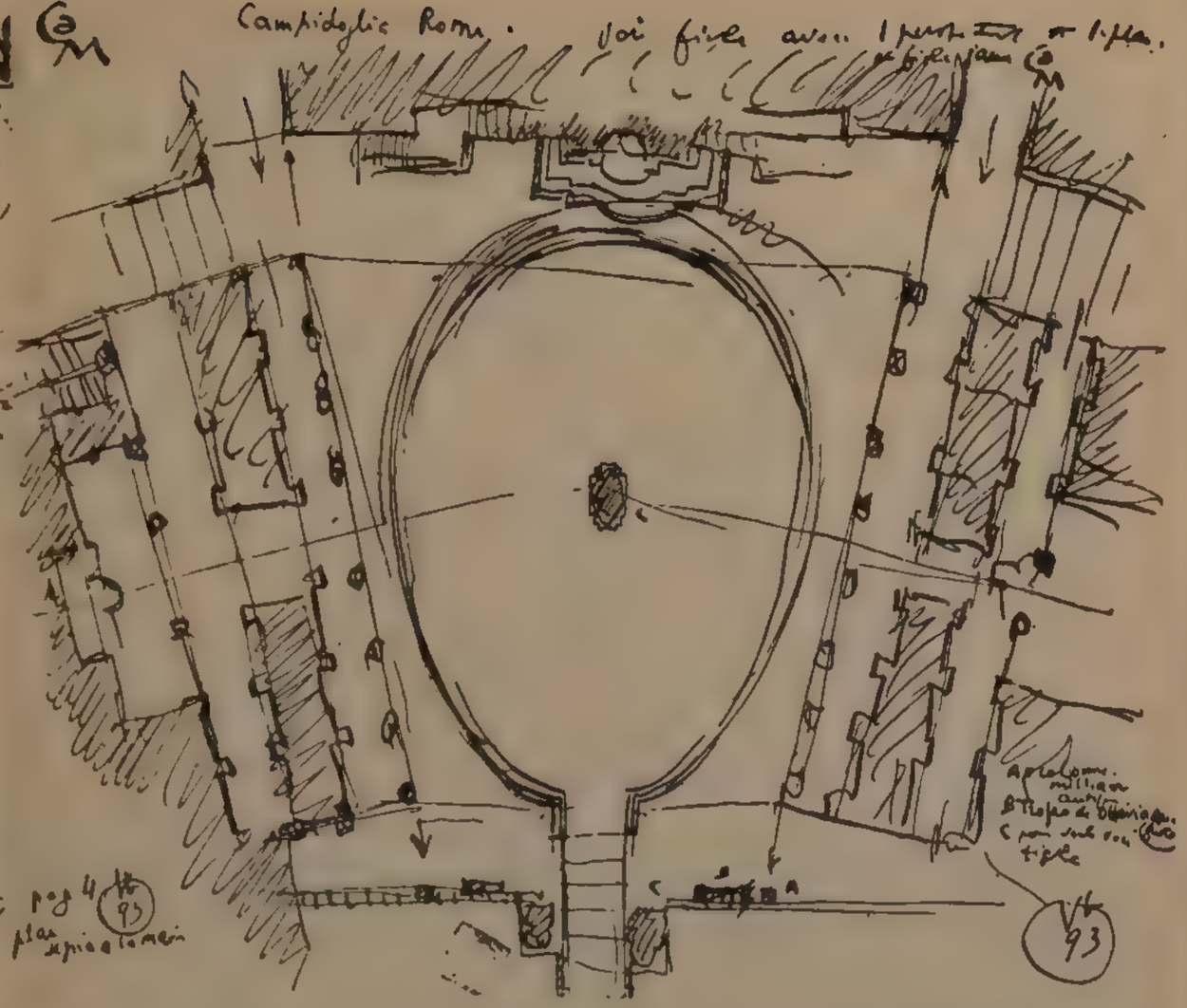
It is reasonable to think that one day a Bachelor in his thesis will



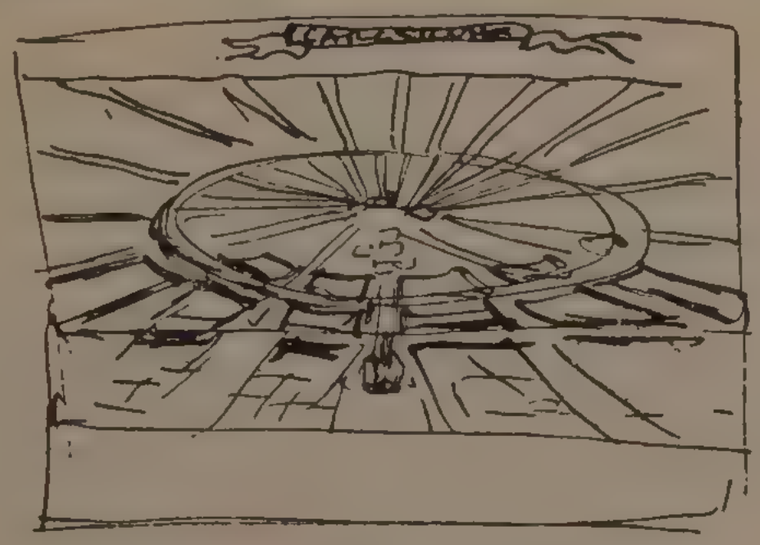
theorise upon the probable development of French art had it not suffered that Roman change.

Certainly, one can ask the question.

Plan of Carlsruhe. (*facing page, bottom*). The magnificent exploitation of skill in a theme, in a system, that created the Roman Capitol, has led,



step by step, to the drawing on the drawing board, remote from the site, and the material and human conditions, to what we know as the "illusion of plans."



It is our inheritance from Classicism, and also the malady which engendered the Academies : it tore from architecture its heart—the spirit of truth—and puffed out the skin of appearances. The "Rome Prize" is the *reductio ad absurdum*. And it is an irrefutable symptom of sickness.

Salons and pavilions for shrubberies (Louis XIV).

What did I say? A society of exquisite polish pursued its etiquettes and colloquys outside the house, in shrubberies and gardens. Interior design extends its conceits to the grounds :

" Cabinets and salons, small halls and large halls, little cloisters latticed with leaf and great cloisters, mazes, etc." a terminology characterising its epoch : divertissements.

*" Grands boulingrins ornés d'un buffet d'eau ou grand boulingrin comparti avec de la broderie . . . etc." The terms have grace, style, breeding.

But the infernal machine is already at work, making every kind of goods for every kind of market : modest, wealthy or parvenu, for priest, poseur, or poet, and made in metal, wood, or stone, on a spatial scale ranging from tables to palaces. Embroidered flower-beds. . . . The gardener consecrates his life to winning this wager of lacework against

* Great lawns ornamented with a " sideboard of water," or great lawns divided by " embroidery " . . . etc.

slugs and couch-grass, which in the end will cheat him. Time of the great kings. This was a zenith, a hey-day. Admirable, we must agree ; but air-photos of Vaux-le-Vicomte provoke many disquieting questions . . . and the Superintendent was acquainted with financial problems. . . .

Today it is otherwise ; this, too, we agree.

Paris. Plan of the extension of the City, to the Glory of Louis XV.

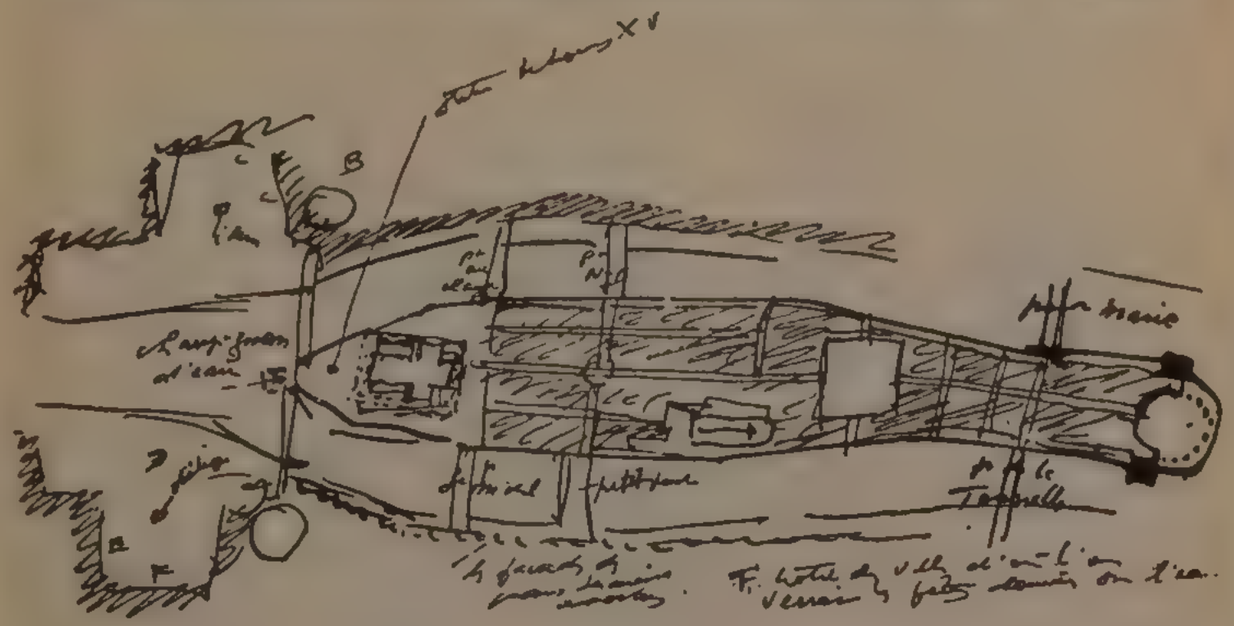
Art is a perilous advance along the stretched cord of a rope-dancer. A slip and a man falls, a touch and the vase shatters, a semitone and the work rings false. I admire here the intentions of the architects of Louis XV in their plans for the beautification of Paris.

Iconoclasm is evidently a very modern crime : a new cathedral arises in the Place Dauphine, " its facade decorated with a peristyle of three rows of colossal Corinthian columns . . ." Henry IV on his horse makes way for a mushroom-jetted fountain : bronze statues of great men occupy the semi-circular corbels of the bridge. Plumb on the axis of the whole—the statue of Louis XV.

Before the Louvre they knocked down houses and Saint-Germain-l'Auxerrois ; on the left bank, facing the Louvre, they cleared more space, and by a unique command raised the Furniture Store, the Exchange, the Salt Store house, the Parliament, the Treasury, etc., the Town-Hall, from which you can watch the fetes on the river.

All the quays realigned, " with subterranean galleries through which the water pipes ran, thus avoiding the constant disturbance of street excavations."

These gentlemen served Paris, the noble mistress of the house. Nautical



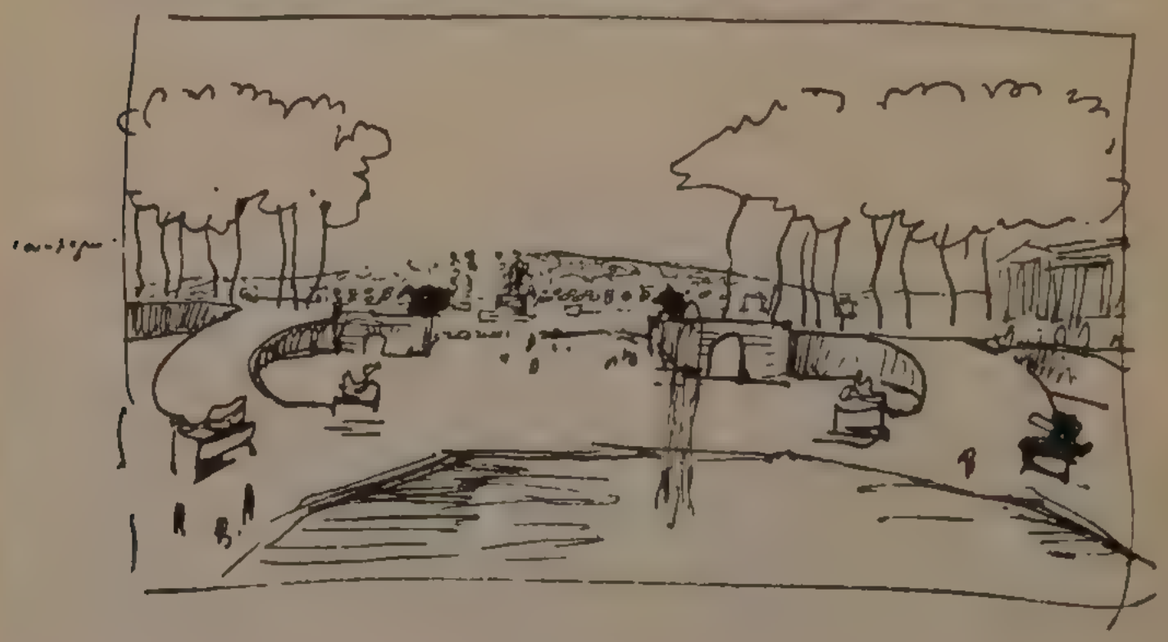
fetes, masques and bergamasques. . . . What beauty and nobility ! And the king was received in his good city.

Project of Boffrand, under Louis XV.

As our mechanised society is coming to life, the devil takes a hand with these forms, exhausted by redesigning, turning them bad, making them the prototypes of professional teaching, and installing in every quarter of the world, great machines for their reproduction, the impact of which we feel today : palaces of every kind, parliaments for new republics, for the consolidation of empires, and so forth. Witnesses of lack of measure, an inhuman architecture.

Paris, Tuileries, and Place Louis XV (Concorde (*below*)).

By good fortune, before the institution of the Rome Prize sanctifying

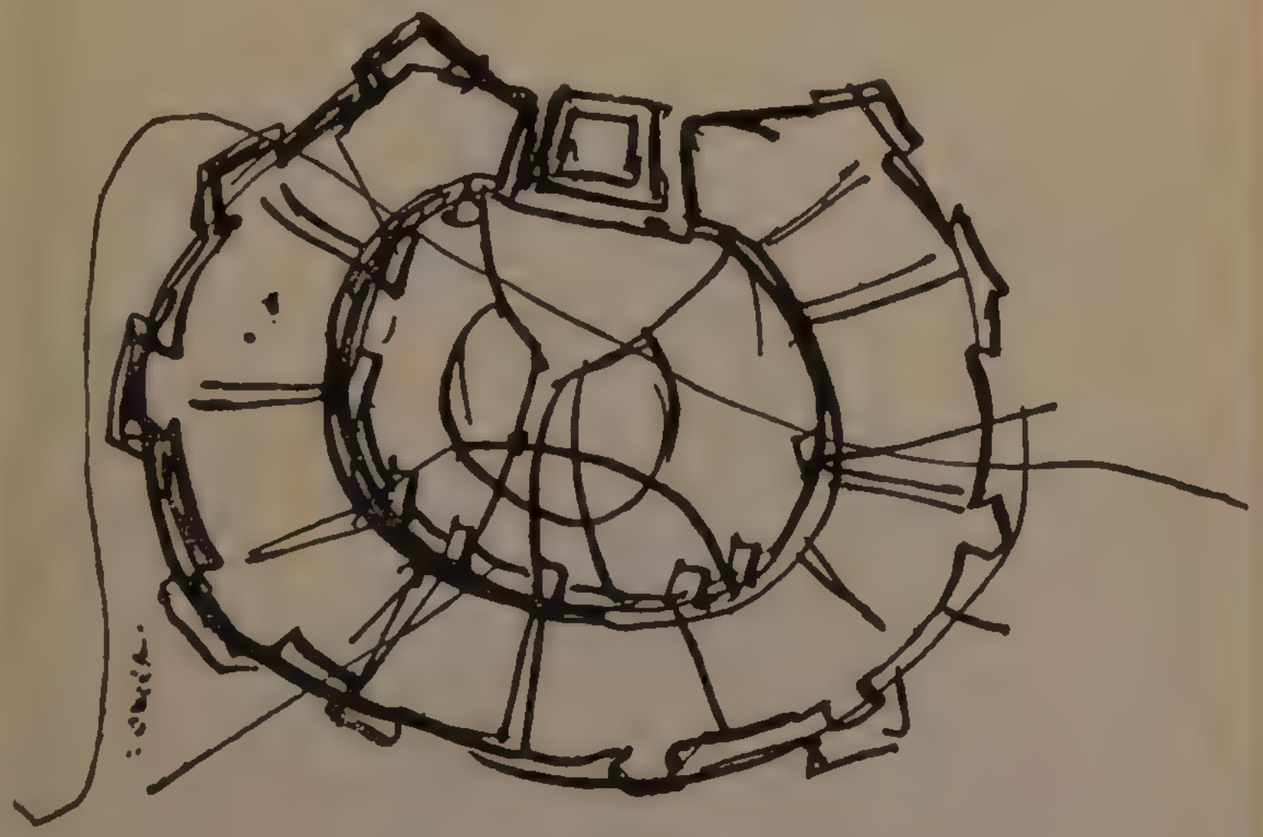


the over-emphasised, the inflated, the measureless, we were left a witness of a work radiant with spirit, of sane dimensions, and of architectural nobility. The Tuileries were open to the countryside ; but here they are debouching on the Place du Roy. The outskirts of the town were built by nature. The Palace, the Square, the statue of the King, bordered on woodland. The dream we have today of confining the spread of the suburbs, of seeing cornfields, meadows and orchards flanking the town (grass and wild flowers being the natural police force of town-planning) ; that dream was already realised by a king. Then why, my friends, should we despair in an hour when the world possesses all its present powers ?

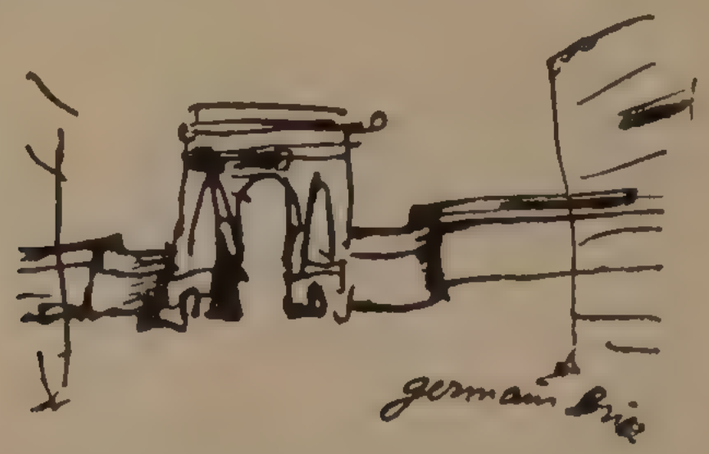
Renaissance Milan.

Today (aeroplanes and their new darling, the atomic bomb), times have changed ; towns will no longer be encircled by military walls.

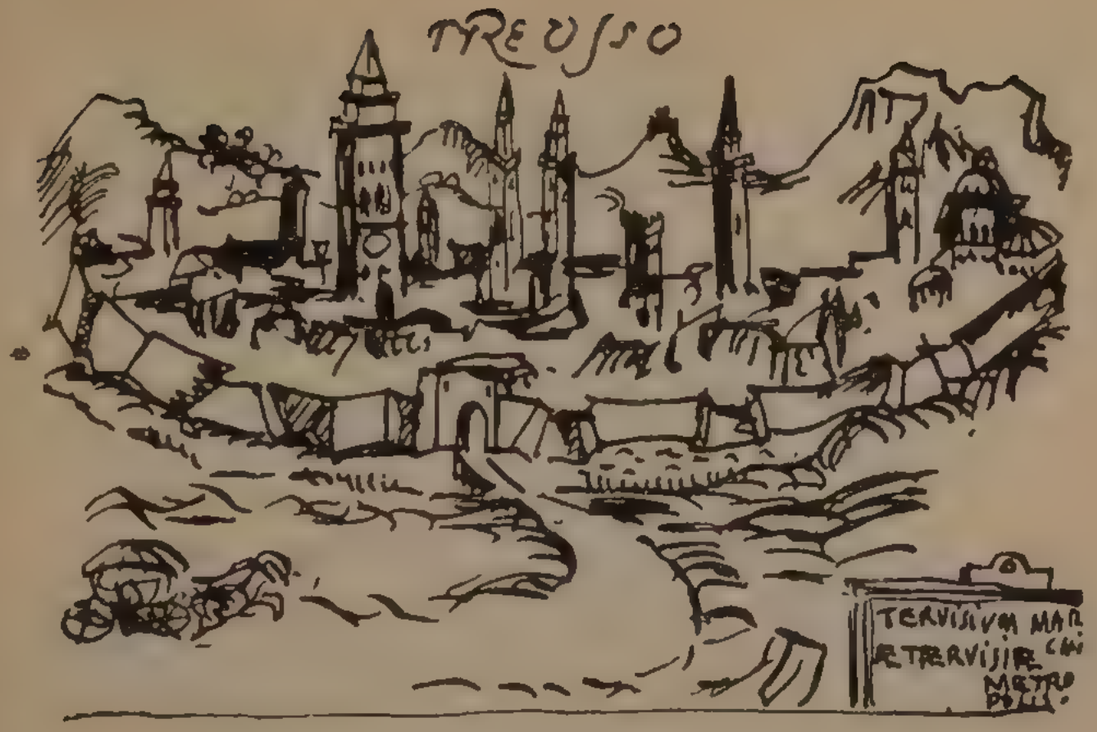
At that time, planning was difficult within the heap of houses, palaces, and passageways. The island site could only result from the intersection of three, four or five roads.



Porte St. Denis.
Louis XIV had already set a boundary about his town to prevent ts flight into the fields.

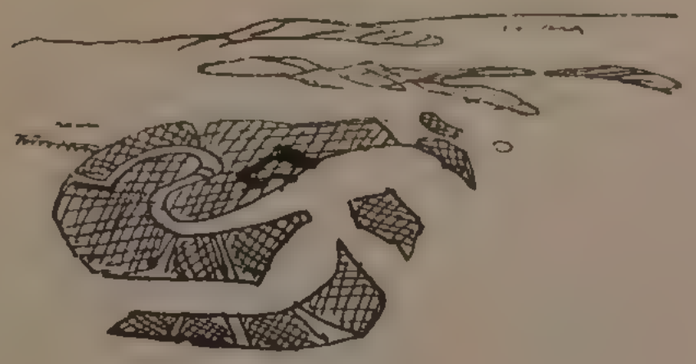


Town and Citadel of Nancy in the XVIIIth Century.
Military constraints are always present, even though the new town was laid out at a single stroke.
The spirit of grandeur flowered under those constraints. The town was closed like an egg, girdled by noble architecture.



Treviso. The town is full like an egg, closed like an egg, packed with buildings and people, with naves and towers. The human sentiments of nobility, rivalry, aspiration, are manifested in the buildings by eloquent symbolism.

Venice from the air.
Now things are otherwise, and nature is married to the town. Henceforth no fortifications will stifle it. The organs of the town can be



classified, can exist for themselves, can establish themselves usefully one beside another ; living, working, cultivation of the body and the spirit, circulation (the Athens Charter) ; such are the functions.

Today Venice is still our teacher ; classified circulation, supremacy of the pedestrian, the human scale. Natural conditions imposed by the element of water.

Let us take it that today the hour of liberation has sounded for town-planning (for those who know how to live freely, or to attain their freedom).

Part Three

ONE TAKES THE OPPORTUNITY TO REPLY TO AN ENQUIRY

*" Do you disown the school of thought that is typified by the doctrines of a machine for living in ?"**

" Certainly not. But this movement, of keen retrospective interest, appears out of date today. One thing, alas, is certain : that is that the architectural revolution does not consist only in the satisfaction, by spectacular means, by formulae of a crushing rigidity, of certain aspirations (air, sun, space) of which we do not misconstrue the importance, but which do not constitute, in our eyes, the sole aspect of the well-being and development of man. Functionalism alone could never have attained the qualities of decency and courtesy necessary for the rebirth and consecration of a style."

Declaration of M. Raval, President of the Executive Committee of the Ligue Urbaine et Rurale, in answer to a questioner, August 1945.

Men are fools (the dictionary says : autonomous, wise, reflective, reasoning, feeling) ; but men are not wise, reflective, or feeling, for they remember nothing, feel nothing, see nothing. In Paris (April 1945), around the Opera, cars are coming back ; already a slight stink, already the roadway is forbidden, the pavement is already obligatory, with its chaos, its shame, its significance : pedestrian crossing place, if not . . . sudden death ! No more can we look up at the sky ; we are back again in the prison yard. It was wonderful how Paris offered us consolation during the years of trial ; pure air, a calm eye, and the possibility of seeing with the peace of a pedestrian in Venice (there are no roads of any sort in Venice), not the Law Courts, but the buildings of the Concorde, the houses of the Faubourg St. Germain, and even (yes, gentlemen), that which remains of value in the Marais. . . . I did not meet many Frenchmen, patriots, proud of their past and defenders of their architectural patrimony, their noses in the air in the middle of

* It is 25 years now since I wrote Chapter II of the series " Eyes which do not see " in " L'Esprit Nouveau," our crusading review of 1920-25.

In 1923, this chapter reappeared in the book entitled in English " Towards a New Architecture " ; it bore this frontispiece : " The aeroplane is a product of extreme selection.

" The lesson of the aeroplane is in the logic which has dictated the statement

the street, their eyes running over the splendid facades. Apart from a few kodaks clicking at the Eiffel Tower to send it in an envelope to Oklahoma or Madison, I did not see any "snap hunters" profiting by this unique occasion in the history of Paris, and one which certainly will never come again; the facades visible from their foundations to the roof tops, and the streets, curbs and pavements unimpeded (by cars, lorries, and buses). They did not take this chance—no one profited—to accumulate the fine views of Paris, for once innumerable and realisable, in the archives of France. The documentary reporters could have shown on their films how men's houses expressed modesty and firmness of purpose and form before the Academies inflicted their blight upon the dwellings of the twentieth century through ignorance and folly. Through ignorance: for the dwelling house has never figured on the Programme of Studies that is crowned by the diploma without which today no one has the right to build. Through folly: for after the grandiose aspirations that preceded the diploma, the graduate finds himself, in order to earn a living, condemned to building blocks of rooms to let, and sometimes to supplementing his modest fees by the small change derived from their management.

Cars return, bringing with them their fever and congestion, symptoms of a breathless mechanisation that is allowed once more to go to rack.

The country has been asleep too long. The embalmers do their work, even the sleepers. They seek to sap the enthusiasm of those men, buttressed in effort, who are trying to destroy the power of routines by fomenting a public opinion that will serve as a warning against indescribable catastrophe. For we must, in fact, cross a Rubicon, abandoning the old ways.

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of the problem and its realisation.

"The problem of the house has not been posed.

"The existing elements of architecture do not respond to our needs.

"However there are certain standards for dwellings.

"Mechanisation itself implies the selective factor of economy.

"The house is a machine for living in."

This concept became a byword. The "machine for living in" responded to a tendency of thought.

Having read the series: "Eyes which do not see," one turned the page to the series: "Architecture" with this frontispiece: "Architecture is the creation of moving harmonies from raw materials.

"Architecture stands beyond the realm of utilitarian things.

"Architecture is a plastic art.

"The spirit of order, singleness of purpose, a sense of proportion; architecture disposes of precise quantities.

"Using inert stones the emotions create a drama."

We may say that it is from ignorance of these writings that M. Raval and his kind equivocate on my conceptions of art, life and architecture. Moreover when they say: "Retrospective" they suppose themselves by this pretention to appear tremendously "avant-garde": "... eyes that do not see" one might reply. ...

Here then are the replies to an unexpected enquiry which reached me in October 1944. Though originating from England, it equally carried the stamp of that French architectural circle which desires to appear modern without being so, to innovate only by ringing changes on the past, to interest the moderns, whilst reassuring the academicians.

The enquiry took the form of a questionnaire, and had apparently also been addressed to a number of other French architects and writers. The replies were intended to be printed in a new English magazine. "You are no doubt aware," the enquiry began, "of the interest of the British public in problems of reconstruction both in England and on the Continent. I may add that it awaits with interest new solutions by French architects of the problems of reconstruction, which are posed by the need for the education of a world rising from a heap of ruins. We therefore hope that you will assist us in our aim of enlightening British opinion, which now as ever looks with interest towards France, by replying in detail to our questionnaire."

But the strange thing about the questionnaire that followed is that in many places it answers itself; it is tendentious; it is discouraging and demoralising, at the very time when the greatest energy and faith are needed to overcome unimagined difficulties, at a time when we have to make so great a leap into the future and the unknown (the harmonious organisation of a technical civilisation) that we need all our daring and courage.

The English magazine in fact never appeared, but we believe it possible, with the aid of this English questionnaire, to attack the problem by means of question and answer, and in so doing to show the anxiety of a fearful clientele to which is opposed the calm reasoning of the technician. Question, doubt and affirmation are all assembled in a cursive form. Napoleon used to claim that the humblest sketches were the most eloquent; our readers may profit by interpreting the pencilled thoughts that follow. The incontestable straightforwardness of the diagrams will save us from many verbal ambushes. We must at least accord to this method the virtue of good faith.

FIRST QUESTION

By what method do you consider the homeless refugees can be housed with the least delay?

a

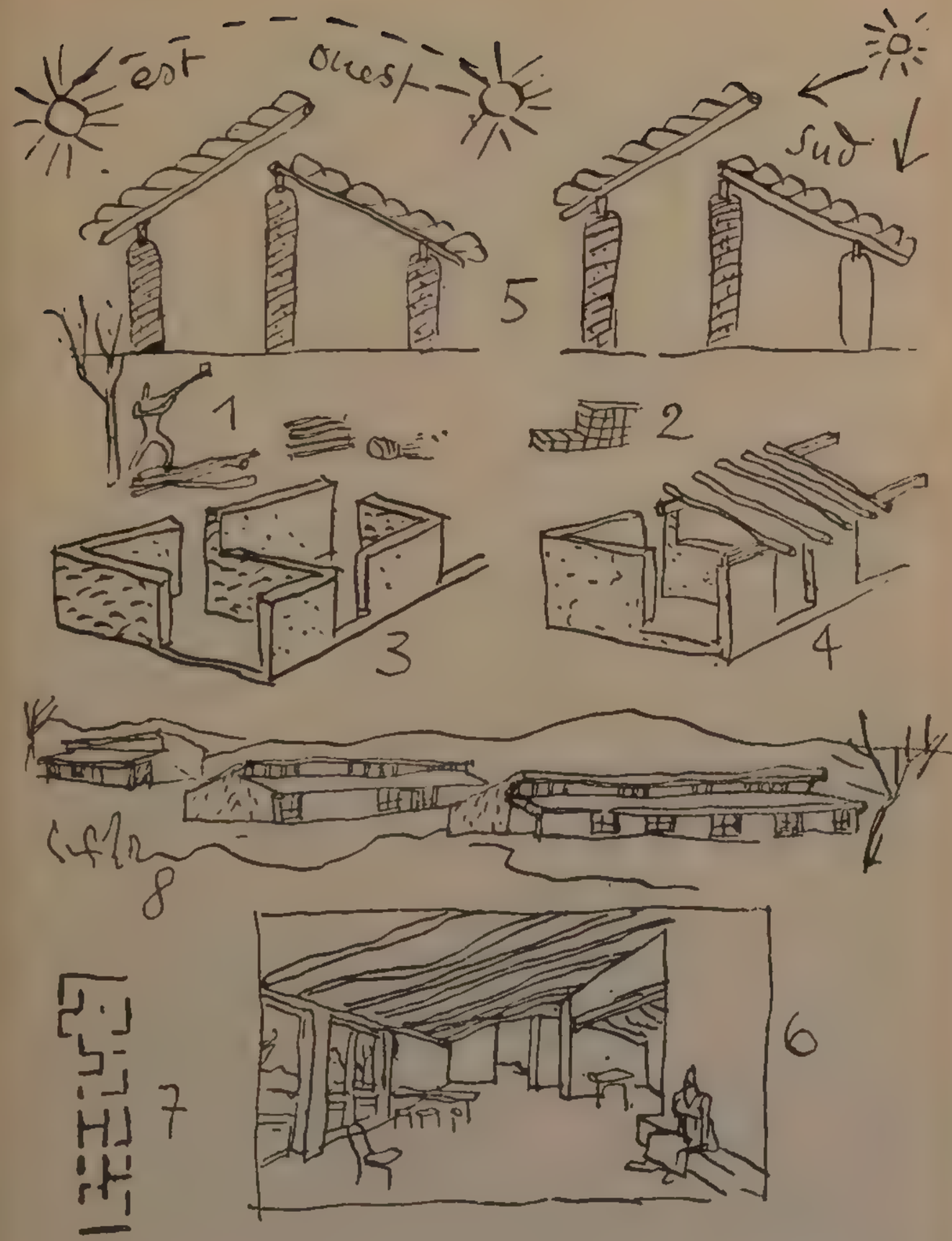
DRAWING 1

The "Murondins" system of construction (*Mur et Rondins*, i.e., walls and tree trunks).

In January, 1940, M. Dautry, then Ministre de l'Armement, asked us, among other things, to help him with the question of encampments. Summary of the problem : (1) Impossibility of lodging the warworkers who, following their factories, had been scattered throughout the country, in the time available. (2) (May, 1940) First wave of Belgian evacuees followed by evacuees from the North. First, 100,000, then a million ! They became five million ! The carts were on the roads, the market towns were invaded. There followed a host of cars, trains, pedestrians ; THE EXODUS.

This was the idea ; it was useless henceforth to count on a supply of raw timber or on the skilled labour of carpenters or masons. Transport was unreliable or jammed to a standstill. The refugee was to build his own shelter with his own hands, with earth, turfs, tree trunks and boughs which he would find on the spot or nearabouts ; with branches and faggots, etc. . . . These were the "Murondin" constructions, formed of solid earth walls unweakened by any window openings, and carrying a framework of tree trunks resting on two wall plates spaced ten feet apart. These simple and primitive constructions touched on the most fundamental elements of architecture ; sun and light, the human scale, purity of the structural system, plastic æsthetics, and relation to the site.

1. The wood is cut.
2. The plot is levelled.
3. The earth walls are built, cruciform, ensuring stability.



DRAWING 1

4. The roof framework of tree trunks is erected.
5. The section allows the penetration of sunlight no matter what orientation may be dictated by the terrain.
6. The inner walls whitewashed and sunlit make a rich and solid architectural harmony with the rugged tree trunks.
7. The plans can be infinitely varied to provide small or large lodgings, schools, youth clubs, provisional farms, etc.
8. The buildings are one with the countryside.

The debacle of June put a stop to all this ; the " Murondin " system was then offered to youth during the occupation for the creation of clubs in which its lost strength could have been reforged.

Such is the measure of inertia that up to the present not a single " Murondin " has been built, though the need has not diminished.

b

DRAWING 2

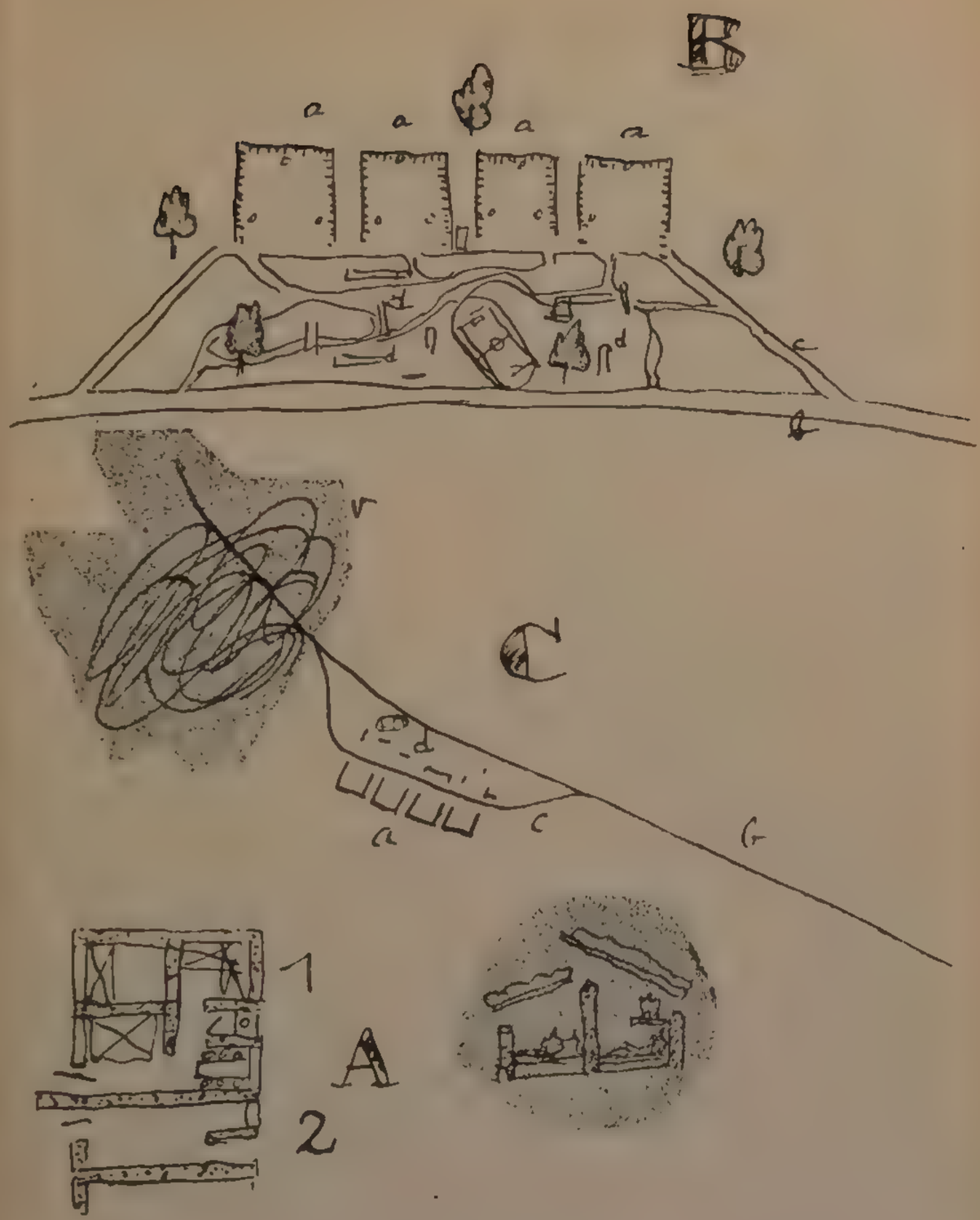
" *Provisional Transitional* " *System.*

Liberation of Paris, Summer, 1944. Hordes of refugees without shelter. The " Front National des Architects " forms its executive committee. This was the problem : " The winter is coming, how are we going to lodge the refugees ? "

I at once replied : " Let every hole serve as a shelter ; equip the cellars, roof any four walls with tiles, with planks, or any waterproof material. The country is too shaken for any attempt at co-ordination or manufacture. In any case there is no transport, nor have we the time to organise on any other lines."

Out of curiosity I decided to follow up this line of thought. I arrived at the system of construction described as " provisional transitional."

Provisional : ensuring that these encampments would not last longer than 20 years. To achieve this end we adopted the simple expedient of housing families in space sufficiently restricted as to provoke them to move at the first opportunity. One conceived a series of family lodgings (*a*) absolute minimum for a couple (2), or larger for couples with two, four, six children (1) ; bed for the parents, superimposed bunks for the children (boys and girls separate), a narrow table. The W.C. pail is accessible from the outside and is regularly emptied by a janitor. (This detail is one of the most essential points of the whole project ; if one yields to the temptation of installing flushing water-closets, the provisional would be revised in favour of the final, and hence the permanent, solution).



DRAWING 2

System of construction : " Murondin " organised on a large scale with mechanical aids, and employing sun-dried bricks as the basic material.

Transitional : This term was intended to express the introduction of new organisations into domestic life which would help to alleviate the cares and duties of mothers of families, and enrich the life of the community. Transitional signified that one intended to profit by these tragic circumstances (the destruction of towns) in order to introduce into daily life, by the lever of the very necessity of the refugees, new freedoms based on the organisation of communal services. The crushing duties of the mother of the family, of the mistress of the house, have occupied my mind for many years. If nothing is done about this we shall see the man's working day reduced to eight, six, or even four hours, while his wife continues her labours about the house for sixteen to eighteen hours a day. Problems of family, birth-rate, public hygiene and physical and moral health are immediately posed. (This theme is taken up in many of the diagrams which follow, it being regarded as one of the pillars of a new social equilibrium)..

Thus, in Figure B are grouped a thousand inhabitants in four groups of 250. Each group (*a*) is a kind of caravanserai composed of lodgings of types 1 and 2 in Figure A. In (*d*) are assembled the transitional institutions ; the crèche, the maternity home, the primary school, the adolescent's club, the man's club, the woman's club, the food co-operative (provisions, kitchens, restaurants), playgrounds and sports grounds.

Where are these " Provisional transitional " centres to be established ? ; Figure C the ruined town, v ; (*b*) one of the roads leading to it ; in (*c*) a strip of ground favourably sited for building ; easy drainage, trees and lawns ; in (*a*), the provisional caravanserais ; in (*d*), the " transitional " equipment.

How long is this meant to last ? Two, four, six years. Instructors, educators, the " friends of men "—in short, those few devoted beings who are to be found everywhere and always—will have educated and encouraged each and everyone, teaching them to use the new tools of modern life, so that one day they will find themselves ready ; when splendid new towns have arisen on the graveyards of the war.

SECOND QUESTION

How do you envisage the reconstruction of partially destroyed towns ? Should the new quarters be in harmony with those old buildings which may have been spared (provided, of course, that such buildings have an unquestionable artistic value) ? Where, on the other hand, would you express without reticence the spirit of our age by the use of modern techniques, such as reinforced concrete, roof gardens, glass facades, etc. ?

a

DRAWING 3

. . . " To be in harmony with." . . .

Venice offers a powerful lesson in harmony, no one can deny it. Poetry flies there on multi-coloured wings. A joyous serenity, a fruitful diversity, and moving surprises are all organised into a symphony of majesty and delicacy on the horizontal lagoon.

As the centuries passed, each offered its variety of viewpoints, of oppositions, of changes of intention (we speak of æsthetic values).

The Basilica of St. Mark ; the year 830, 976, 1050, 1400 (Roman, Byzantine, Gothic).

The Campanile, Romanesque.

The Ducal Palace, year 800, and 1400. Romanesque, Gothic and Renaissance.

The Library, 1536, Grand Renaissance.

The Old Courts ; 1480 : The New ; 1584, Turco-Gothico-Renaissance.

The two columns bearing the Lions of Saint Mark and of Saint Theodore : Eastern Byzantine.

In the background, the church of Saint George posed upon the lagoon, 1565 ; Palladium Renaissance.

The questionnaire understands the word " harmonise " differently from us. It implies that harmony is achieved by re-covering with the same piece of stuff ; in the absence of which, being unable to " harmonise," one is *forced* to express the spirit of a new epoch through its particular (material) techniques. It sees a dilemma and the necessity of choosing between harmony (safety), and change (danger), although the history of men, and particularly of architecture, shows us in all times

DRAWING 3

and places how this particular dilemma can be avoided when harmony is provoked by the true expression of the spirit of an epoch ; that is to say, more simply, that when life is healthy, active, turbulent . . . the whiteners of sepulchres are sent to the devil !

b

DRAWING 4 *(Overleaf)*

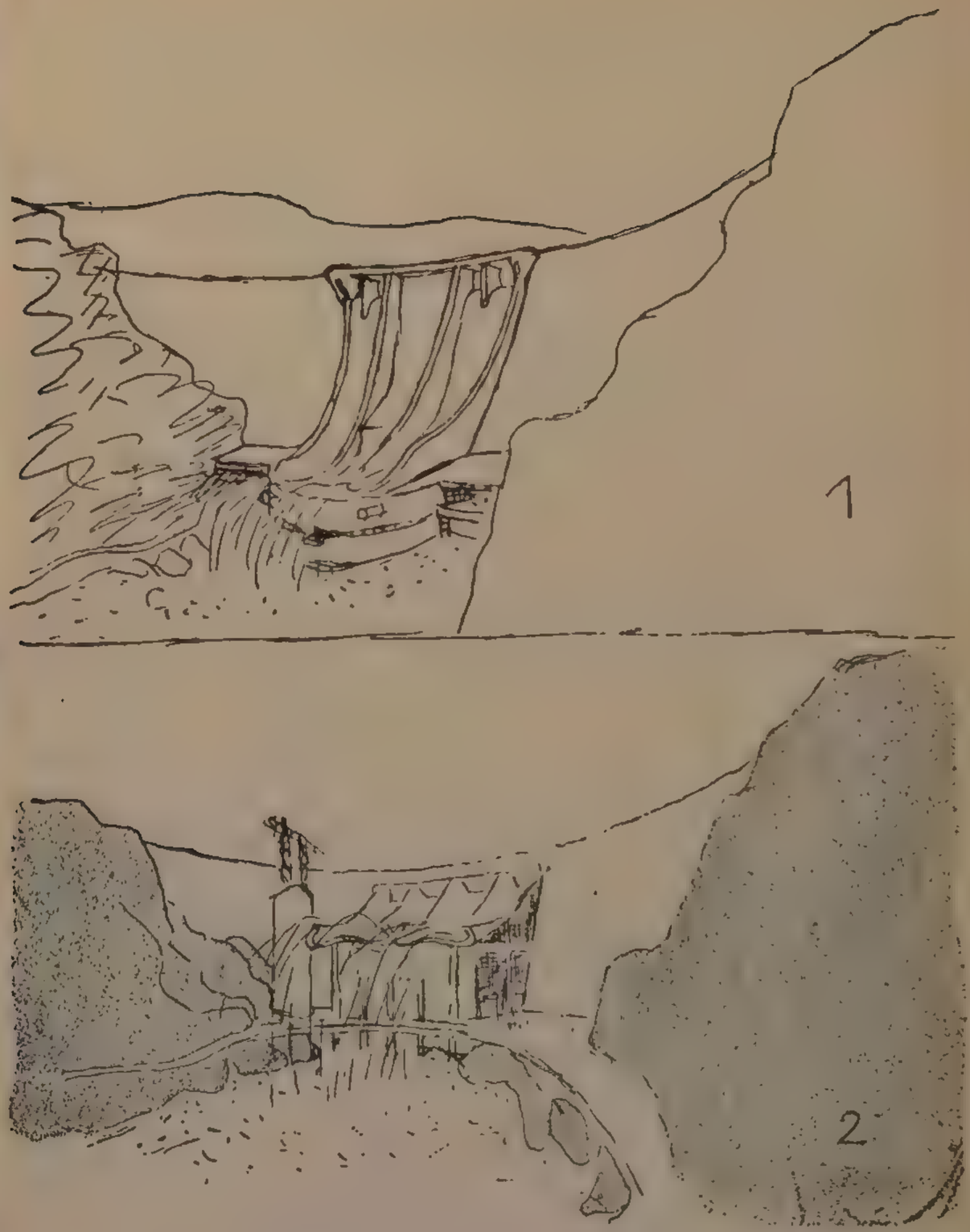
There is no dilemma.

At one of the poles of architecture we have, for instance, hydro-electric dams. Architects ? This is the work of builders, of hydraulic, mechanical, and civil engineers. Could there be a poet among them ? Yes, one is sometimes found.

For many years now the barrages have stretched their concrete cliffs across the valleys ; the custom has been to set the turbo-generator buildings some distance away. Not long ago one of these engineers with a flair for harmony, M. Coyne, rejecting this disassociation of the constituent elements, welded together the plant and the barrage, creating a single entity with a healthy and well-articulated biology. It was a decisive step. It mitigated severely and with effect against the secular habits and customs of architects and architecture ; it was a pure phenomenon born of the behaviour of fluids. The trabeated classicism of the tee-square and set-square is out of place here.

In 1939, I attempted (1) to achieve a new form in the architecture of fluids (on the lines of the barrage of M. Coyne). In 1945 I tried again (2) (the barrage of Chastang). But I had the impression that I preached in the desert : to jettison the ballast of habit so completely and so light-heartedly shows a certain lack of good manners, perhaps . . . and engineers, oh miracle ! are the least daring of men.

How should the questionnaire be concerned about " the expression of the spirit of our time ? . . ."



DRAWING 4

THIRD QUESTION

Should towns which have been entirely destroyed be rebuilt on old sites? If new sites be envisaged, how should they be chosen? Should we, in particular, take account of the present state of the road and rail network, the waterways, and the proximity of land suitable for use as air-ports? How do you envisage the relations of the town to its surroundings? How would you site the stations, the coach stations, the air-ports, etc.?

a

DRAWING 5

Crossroads.

The earth was born without political frontiers: it is round and continuous; the human species has multiplied across the four quarters of the world, following laws of climate, of water-sheds, of winds. The human ant has seethed over the planet. Just as ants, clambering through grass, brushwood, over pebbles, follow their inevitable tracks, so men have made their roads. Roads follow the shortest routes compatible with the slopes in their path. Obstacles assert their pressure on this tracery: rivers, mountains, and the routes establish themselves throughout milleniums. They are relatively predetermined, that is, they go where they must, because they know of no alternatives. The three routes embodied in the earth's surface, the roadway, the waterway, the iron way, all have their destinies fixed by the nature of the terrain: Geography. The new route of the air goes straight, cuts straight, goes everywhere, above all, indifferent to geographical obstacles.

The earth road, first creation of the human race, follows the implacable destiny imposed by topography. Here and there it is cut by another road going elsewhere. Crossroads. From that spot henceforth a large territorial area can be drained and fed. This crossing is the natural site for a city nourished on its hinterland; for a radio-concentric town, a centre of Government and exchange. There men will set up their granaries and their stores, their workshops and their industry, their Government with its justice and its prisons.

Lyons arose with just such a fatality, and might easily have become the capital of France. Paris drew that rôle to herself. Let us look

at Paris (1). Her arteries define her situation with an uncontestable reality (and, in fact, uncontested, throughout long succeeding centuries), feeding and feeding on the surrounding countryside. But they have found their sources further afield, at Havre, Calais, or Brussels, in Strasbourg, Geneva and Marseilles, Toulouse, Madrid, Bordeaux, Brest or Cherbourg. They determine the situation of Paris ; and they shape the heart of Paris. That heart is a sacred and intense point within the city.

Might not centuries have changed the form of the town, altered its destiny, shifted it towards the west? The verdict of geography has always intervened.

If we return to the origin (2), we shall see the germ of the pattern complete in Roman-Gallic Lutetia.

b

DRAWING 6

But the locomotive has arrived.

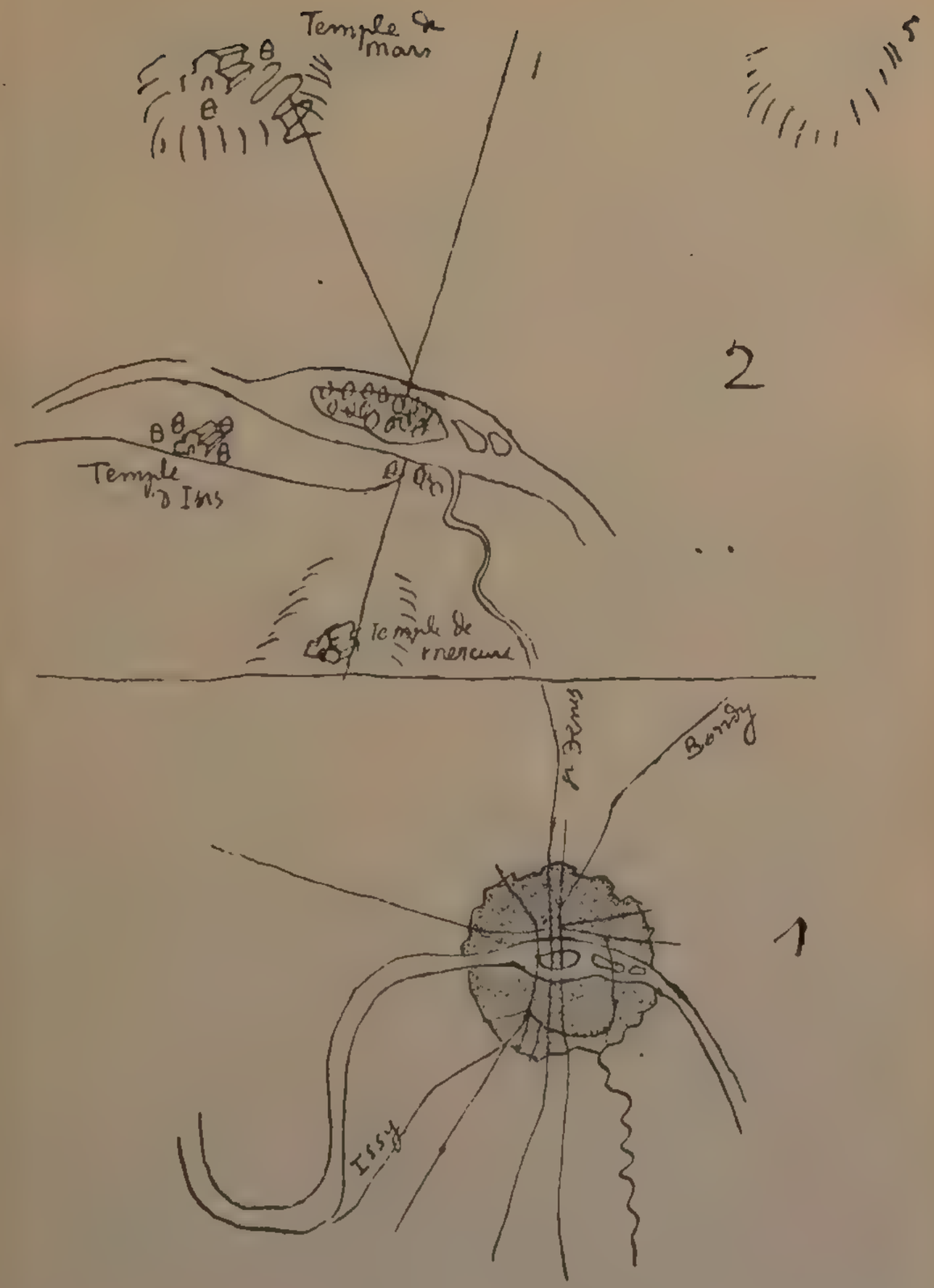
And our technical society has woven the network of railways. These routes have touched the towns, bringing elements of a new life: a twenty-fold multiplication of speed (60 miles an hour) replaces the immemorial pace of man and his horse, of the ox and of the ass. The consequences are immense and unforeseeable. In a hundred years a technical civilization is born, disruptive in its power and its possibilities, upsetting everything in its passage! The world loses its sense of direction and all values go to the devil. A revolution in circumstances, in lives, in institutions. A black wretchedness, a black disorder: men suddenly lose their water-level and their plumb line.

The human scale is broken, bypassed, perhaps lost.

The effects are unlimited as a great tidal wave . . . no need to write books about it. . . .

The tentacled cities were born ; Paris, London, New York, Rio de Janeiro, Buenos Aires. The countryside was emptied. Here was a double catastrophe. A menacing loss of equilibrium. In these tentacled cities life is madness. Men move seated about their cities, in trams and underground railways, in cars and suburban trains, living a disordered and demoralizing existence. It is a new slavery. The wars were but explosive crises of revolt. These great problems are not to be solved in a few lines.

In 1928 at La Sarraz, Switzerland, a group of men came together and founded the CIAM (Congrès Internationaux d'Architecture Moderne) ; they tried to co-ordinate men's destinies with those of the house and town and land settlement. During the war the French



DRAWING 5

group of CIAM–France expanded into an organization covering all branches of knowledge; architects, town-planners, engineers, sociologists, biologists, doctors, economists, etc., which was christened Ascoral (Assemblée de Constructeurs pour une Renovation Architecturale). The programme of research was divided between the groups; one of these groups published the results of its studies in a book titled: "Les Trois Etablissements Humains.", This group had made a particular study of the places and conditions of work in a technical civilization, recognizing three natural establishments already mentioned:

(1) The unit of agricultural production.
(2) The linear industrial city (the manufacturing industries).
(3) The radio-concentric city of exchange (government, thought, art, commerce).

These establishments occupy space in a special way, each with its own function: food production, manufacture, distribution. Their destiny is conditioned by the routes that serve them (road, rail, and water). They may well be reshaped by the growing traffic in the air.

We shall not attempt here to repeat the task of setting down the plans and stages necessary to the creation of a harmonious pattern of land settlement in this second stage of our technical civilization. One book, mentioned above, has already appeared.*

c

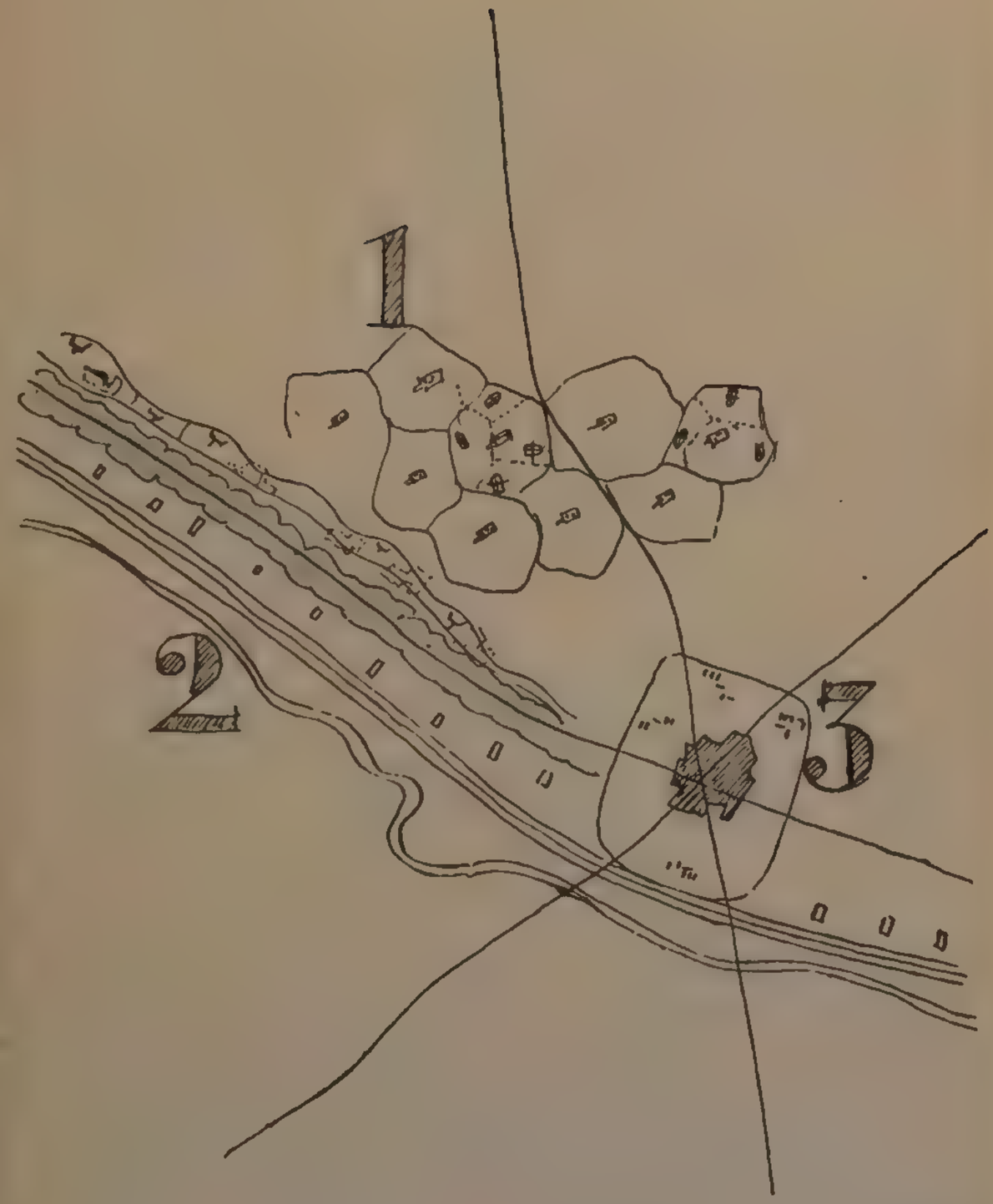
DRAWING 7

Towns are biological phenomena.

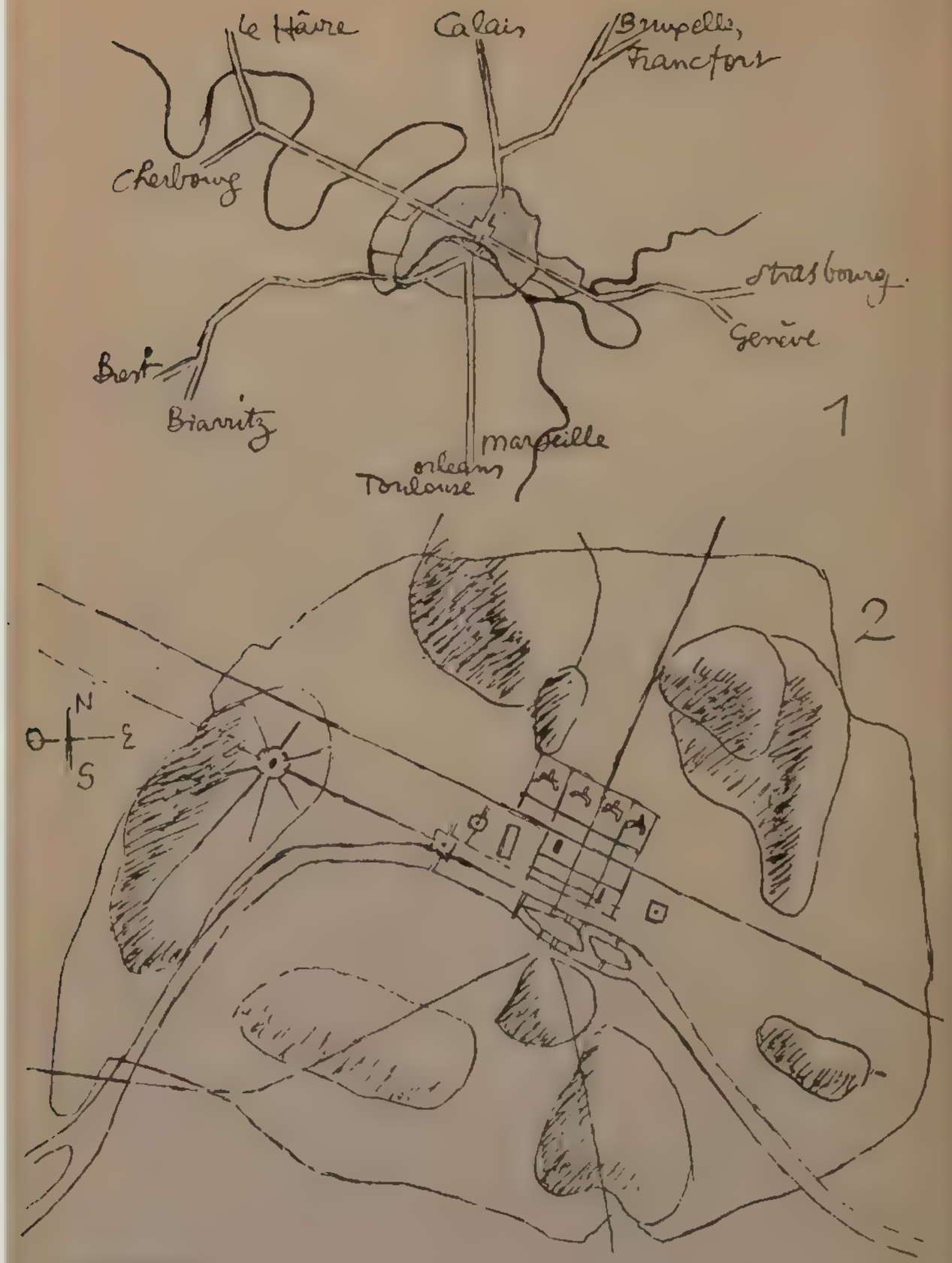
They have hearts and organs indispensable to the accomplishment of their special functions. They may, in the wake of anarchy, lose their vital nature and degenerate into vast parasitic conurbations. But the very factor which permits their growth—mechanized speeds—ends by reducing them to an absurdity: in New York, in Paris, and in London circulation is choked to a standstill. New channels of circulation must be created, and as a preliminary the problem must be reconnoitred, investigated, and understood.

These fateful routes, bedded deep in the old body of the town (Drawing 5) must be reconsidered on the scale of our times and re-created by a bold gesture: by a command. As the creation of the streets of Paris was commanded by Louis IV and Napoleon. The bisection of Paris by the great road of France. Springing from Havre or Marseilles,

* Collection "Ascoral." "Les Trois Etablissements Humains." Editions Denoël, Paris, 1945.



DRAWING 6



DRAWING 7

from Brest or from Strasbourg, the motor-roads meet in the heart of the city, an inescapable destiny. The heart of the city is pinpointed, to the relief of town-planners ; no profit can be gained from desultory adventures aimed at an artificial shifting of the centre to the periphery. Paris, an ever resurgent phœnix, will find her heart again and install there her great institutions.

The wealth and union of modern techniques will bear fruit in the city with its offices and public and private administration, its great vessels housing syndicates and legislative bodies, its civic centre refashioned on the scale of our time. This vital ganglion of organs will be inserted in the flesh of the town, flanked by majestic works of the past, the legacy of centuries. All but the slums will be preserved.

See how the hills within the town wall in her heart, the centre of her eternal renaissance.

Have people then lost all reason and poetry that they can remain unmoved before the tracery of this plan (2), that they cannot sense how architectural splendour would burst forth and shine and flower under its disciplines ?

On the outskirts, little by little, the diseased flesh of the suburbs will be dissolved, as the factories leave the region of Paris to give their toiling thousands new and dignified conditions of work and of life.

FOURTH QUESTION

How do you envisage the plans of future towns, bearing in mind that they must be diversified according to their situation, nature, and function ?

a

DRAWING 8

Future cities are in general also ancient cities.

They have developed, or submitted to, a variety of patterns, rational or accidental, bearing good or evil consequences, the faithful expression of the state of mind and the degree of culture from which they sprang.

Here is no particular European town. At first, A, it was Roman, a colonial town folded in by a wall with well-defended gates. Within,

the crossing of the routes has been disciplined, set at right-angles, the heart of the plan. Outside, from the gates, the roads run forth, influenced by geography, topography or geology, hesitating between the resistance of the obstacle and the shortness of the route. Within the encircling walls stand the temple, the basilica of justice, the fortress and the houses.

B. We are in the Middle Ages. The river has been crossed and a bridgehead germinates upon the far bank. New districts have agglomerated round the community, and a new military wall encloses and protects them.

The old routes, now petrified within the new districts, are debaptized and become streets : the sinuous and slanting streets of ancient towns, the tracks of asses and cattle (Broadway in New York, the Rue Saint-Honoré, or the Faubourg Saint Antoine, in Paris).

C. The centuries have added their accretions, but always to the rhythm of simple speeds (3 miles an hour). The new district beyond the river has grown in its turn. The Roman roads and fortifications have left their traces, as has the Gothic wall. And now a new wall, built out against the cannon, surrounds the town and its new districts, both sides of the river.

If we look at Paris, we see this cycle frequently renewed, ending in the fortifications of Napoleon III, with finally an immense belt of suburbs.

b

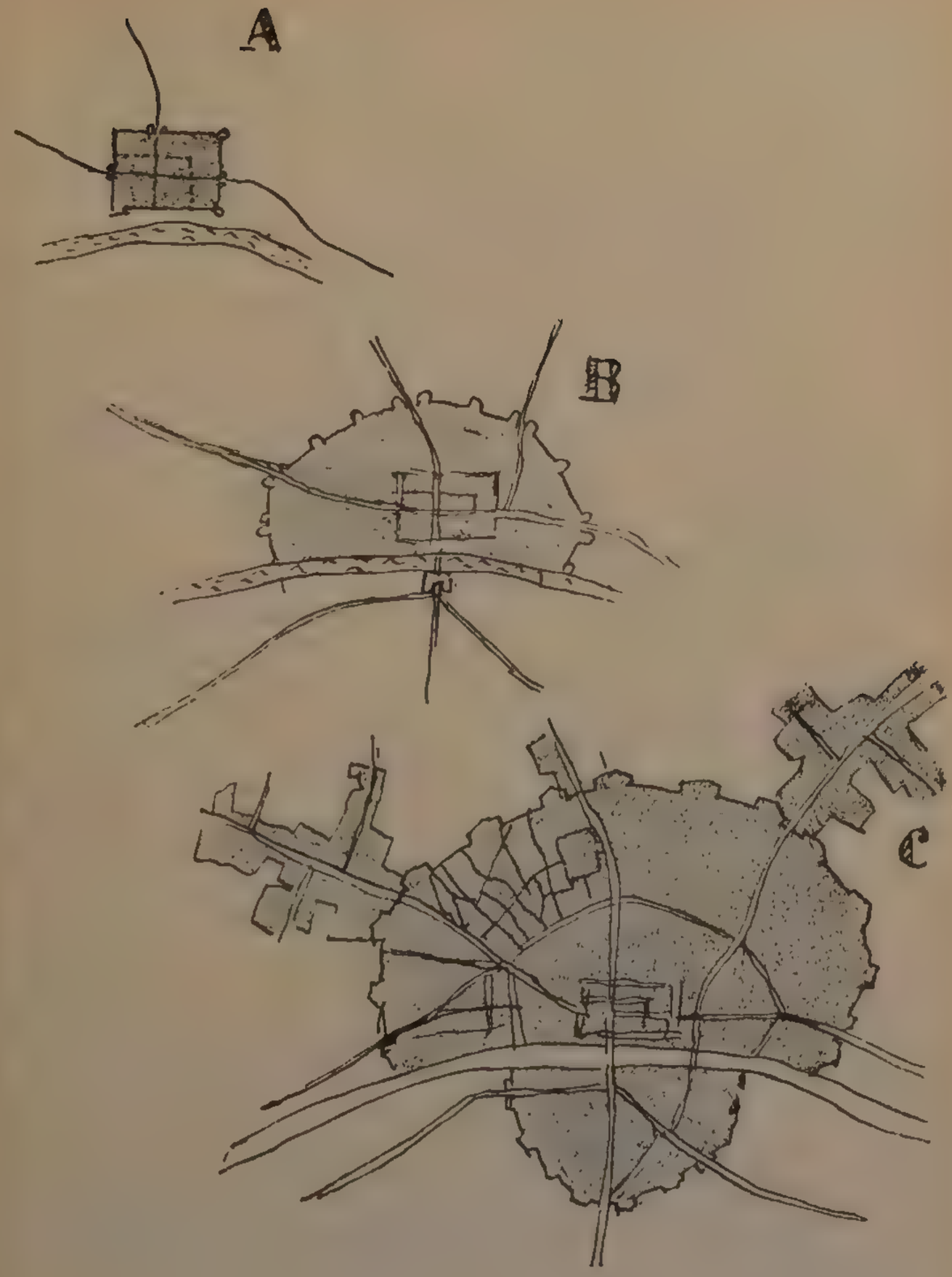
DRAWING 9

We have seen how the patterns of towns, for two thousand years, have been constrained by military defences.

Today, the aeroplane has annulled the wall : towns have no longer walls nor have they a roof, towns have no other defences than military equipments with which to oppose attacking aircraft.

One may take this moment to ask an ingenuous question : " what then is the purpose of such towns ? "

The three human establishments that we have recognized allow us to reply with some certainty. The biology of towns must conform specifically to their functions. A fundamental measure—the solar day of twenty-four hours—will dictate their dimensions, and in consequence will fix their limits. A sketch, a true symbol which belongs in the store-house of town-planning, expresses this : an image of the solar day of twenty-four hours that marks the rhythm of men's activity. A sun rises and sets, another sun rises ; such is the alternating course of



DRAWING 8

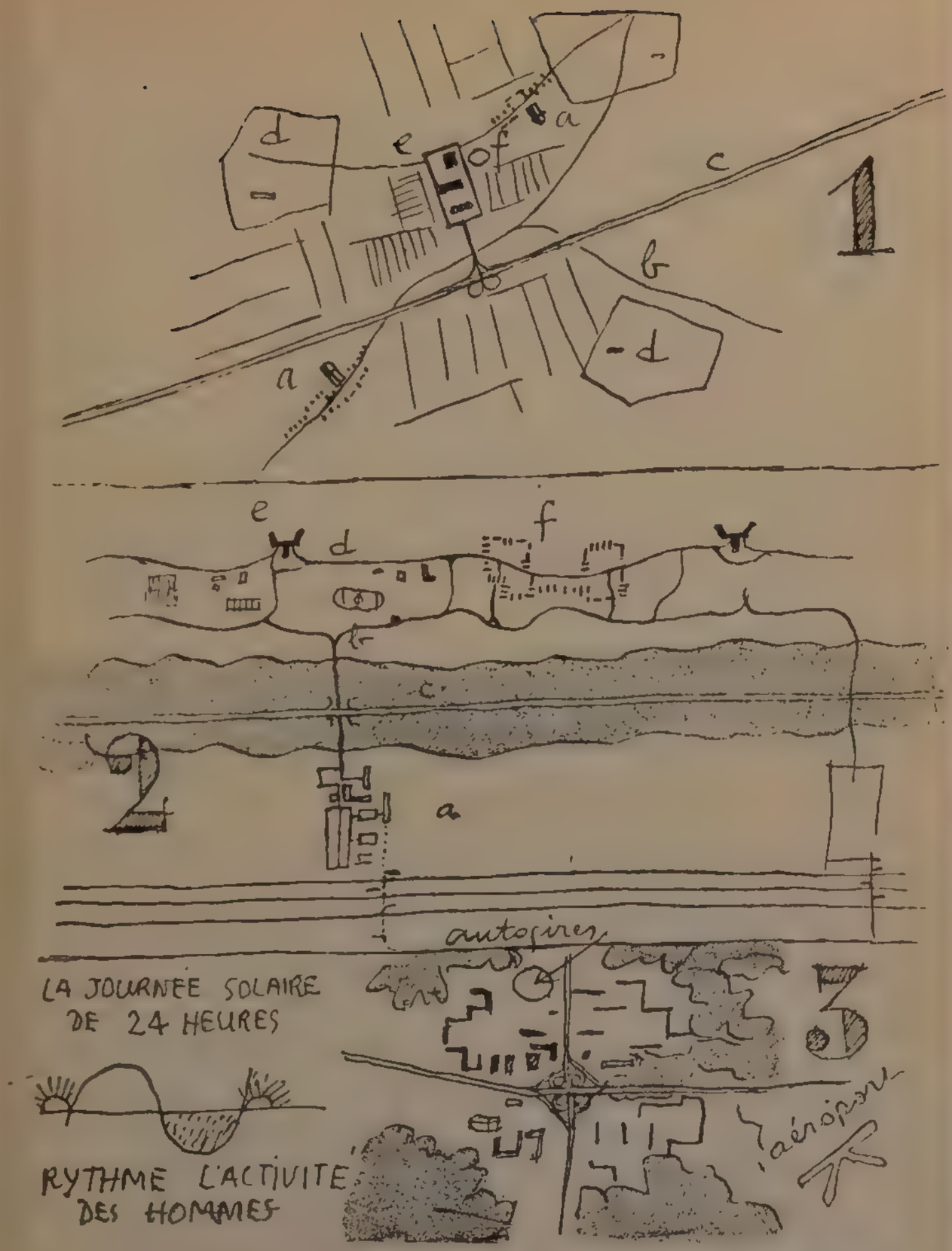
day and night along which our lives extend, the daily measure, the bed of the life of man (3).

The day of twenty-four hours dictates the size of the unit of agricultural production (1), defines the lay-out of the linear industrial city (2), measures the extension of the radio-concentric city of exchange (3).

1. The unit of agricultural production :
   (*a*) several villages and hamlets ;
   (*b*) tracks and roads ;
   (*c*) the arterial route (national or regional) ;
   (*d*) the domain of simple speeds (3 miles an hour) : pasture, stable, and barn ;
   (*e*) the co-operative centre : the grain silo, the garage and repair shop, the clubs (adolescents, men and women) ;
   (*f*) the baby airport for autogyros, establishing rapid links with the world outside.
2. The linear industrial city (a framework for daily work and recuperation) :
   (*a*) an industrial establishment ;
   (*b*) the road on which pedestrians move to their homes ; it passes below the motor-road C which links two radio-concentric cities (the distilleries of talent : university, laboratories, schools of apprenticeship, libraries, theatres, etc.) ;
   (*e*) a " vertical garden-city " (structures a hundred and seventy feet high), forming a habitation unit (of fifteen hundred to twenty-five hundred inhabitants) equipped with communal catering organizations, with domestic service (on hotel lines), with medical services (dispensaries, first-aid, prophylaxis, etc.), with physical culture centres and helio- and hydrotherapy. Apartment buildings furnished with all the extensions of the home : playgrounds and sports grounds, flower gardens or kitchen-plots equipped for cultivation, composting and watering, etc. ;
   (*f*) " horizontal garden-city " (traditional single houses). About (*e*) and with more difficulty about (*f*) are arranged crèches, maternity centres, primary schools, conference halls, adolescence clubs, clubs for men and women.
3. The city of exchanges is crossed by routes. Its dwellings are furnished with common services and the extensions of the home ; the public or private administrative services stand in the centre (the office blocks).

The city may be a seat of government, of learning or of art, or one of commerce.

But for every alternative : a " verdant city " (without suburbs).



DRAWING 9

C

DRAWING 10

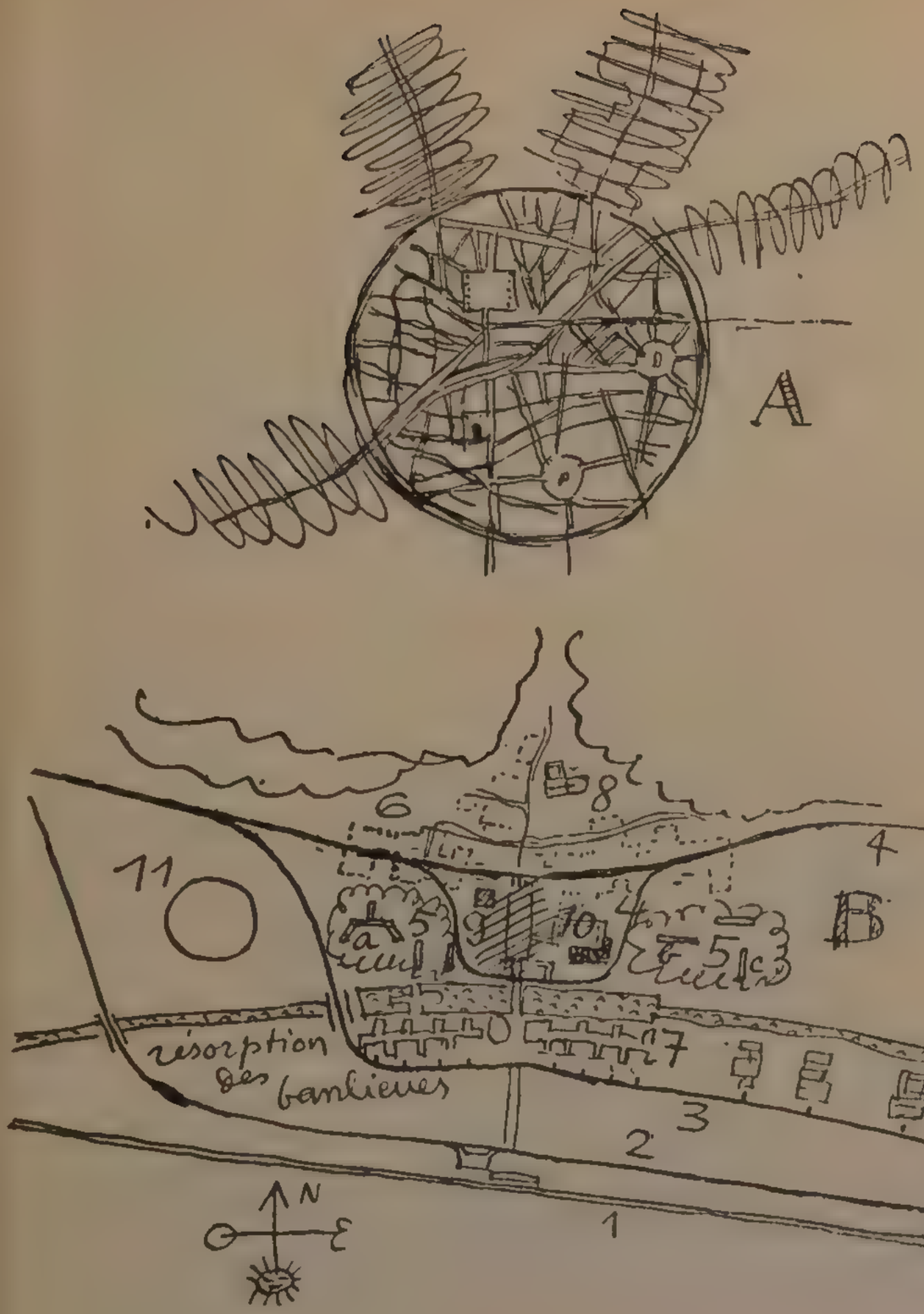
The conception " Living, Working, Cultivation of the Body and the Mind, Circulation " (the " Athens Charter " of CIAM) is antagonistic to the existing framework of ROAD, PAVEMENT, STREET ALIGNMENT, ENCLOSED COURTS, AND EMBELLISHMENTS." In two sketches can be shown the revolution in town-planning made possible by modern techniques.

In A, the schematic expression of our present cities (roads, streets, pavements, building lines, interior courts, and embellishments). It is a confused and inextricable texture of roads, passages, avenues and boulevards flanked by pavements of variable and debatable width, of roadways filled with uproar and the stink of cars, buses and lorries ; the windows of half the facades open directly on this tumult ; windows of the other half give on to courts, more or less abominable. Look closely at the air photos of our towns. Life flows sluggishly within their veins and, with every enlargement of the town, the nightmare of feverish and tangled circulation grows in madness.

In order to breathe, kings, princes, and rulers have from time to time opened up spaces for their ante-chambers of honour or glory : magnificent squares, dignified, pompous or banal, sometimes furnished with their ruler's monuments in stone or bronze and baptized with their name.

Then, in great leprous stains, the suburbs spread out from the outlying districts, polluting the countryside and reducing the outskirts of the town to a miserable and shifting shabbiness.

B. Here is another picture born of modern planning :
   1. The railroad.
   2. The by-pass road for all traffic foreign to the town (heavy goods and cars).
   3. The route serving local industries (7).
   4. The motor-road serving the habitable quarters.
   5. The inhabited quarter in the form of " habitation units " furnished with common services (see drawing 9, and para. 2*e* of page 54) and with extensions of the home: the form of these dwellings of which the height does not exceed 170 feet may be Y-shaped (*a*), parallel (*b*), or normal (*c*), or it may be in the form of rectangular arabesques. The choice of forms will depend on the nature of the site, its topography, and its vistas. By such methods a population density of 170 to the acre is easily attained, a density which allows us to



DRAWING 10

résorption des banlieues ... reabsorption of the suburbs

limit the amorphous spread of the town. The buildings cover no more than 5 or 10 per cent. of the ground in the inhabited quarters, thus leaving great spaces planted with lawns and trees, among which stand the crèches, schools, clubs, etc., the complementary functions of domestic life. The reader could learn more of this in : " La Ville Radieuse," " Des Canons, Des Munitions. Merci . . . Des Logis s.p.v.," " La Maison des Hommes,*" " Sur les 4 Routes," if all these books were not out of print. . . .

6. The horizontal garden city consisting of individual traditional houses placed at the disposition of any who may hope to find advantage in them. Experience will be gained and the difference between the vertical and the horizontal tenants will be judged on the facts.
7. The workshops of the light manufacturing industries are grouped in a cluster with impeccable equipment, light, circulation and maintenance, and allocated to industries according to their needs.
   Further to the right are the special industries.
8. The religious centre.
9. The department stores.
10. The hatched zone indicates the civic centre, with its great building housing all public and private administration, a model office building, splendidly lit, equipped with a complete vertical circulation, all communications, good heating and car parking. Nearby are set the tourist shops and craft centres, cafés, cinema and theatre. Finally, a museum designed for unlimited extension and a hall for fetes and reunions, etc.
11. A baby airport for autogyros (for the town is small ; a unit of ten or twenty thousand inhabitants ; the autogyro would seem to be the equipment for individual travel and postal distribution).

The town is verdant (" Verdant City "), the pedestrian separated from motor traffic. Work and family life in a happy relationship ; work regains its honour and mixes freely in the general life of the town. The river, by means of a dam, forms a beautiful and welcome lake (swimming in summer and skating in winter).

*An English edition is now in preparation by the *Architectural Press*

FIFTH QUESTION

Do you envisage the creation of specialized quarters (business quarters, commercial quarters, quarters of social life) ?

The chaos of towns of the nineteenth and twentieth centuries has falsified the conditions of life for the townsman.

The type of planning solution evoked by this problem is known in England as *zoning* and in France as " *zonage.*" In fact, however, the determination of precise and specialized zones corresponding to the complex functions of the town still remains to be studied.

" The Athens Charter " of CIAM stipulates :

(Article 77). " The keys to town-planning are in the four functions :
Living
Working
Recreation
Circulation."

The Charter adds :

(Article 46). " We must insist that the distance between home and place of work be reduced to a minimum."

(Article 47). " That the industrial sectors should be independent of the living quarters and separated from each other by verdant zones."

And the following :

(Article 23). " That living quarters henceforth occupy the best sites within the urban area, with respect to topography, climatic conditions, orientation for sun, and available green spaces."

a

DRAWING 11

Let us revert to the small town we were just looking at :

A. Precise and specialized zones responding to their functions are joined to each other by well-established links.

1a, containing the residential quarter with common services ; 1b, individual houses.

2, the manufacturing estate.

3, the modern forum, a centre of utilitarian and pleasant exchanges. Here are found the merchants, the administrative centre, the intellectual

centre, the cafés and other places of reunion; in addition perhaps, travellers' services.

4, the existing religious centre, already splendidly sited at the distant date of its erection.

5, the great common esplanade, the pedestrians' promenade, joining and uniting things and people. It stands royally immune from the menace of vehicles.

6, the outward channel towards the railway and coach stations.

B. Here is a directive plan for a great city, Buenos Aires, a clear design capable of banishing chaos and present dangers. Yes, it is possible to see clearly and to decide clearly, to establish by a directive plan the significance and the character of all the enterprises which may be envisaged by the authorities for twenty-five or fifty years to come. Buenos Aires, " a town today without hope," born of a hasty colonization, and numbering three million inhabitants, can, by the operation of a few great lines, attain to splendour out of disgrace.

1. An outer limit (*a*) is fixed for the extension of the town; little by little the outlying districts are withdrawn within this boundary, by means of the gradual cessation on the part of the authorities, of public services beyond it.

2. The business city, housed in four sky-scrapers, stands on an island of reinforced concrete in the estuary of the Rio de la Plata. The small airport for air taxis and autogyros lies before it (12), whilst the airport on the world air routes is located at (13).

3. The great new commercial port.

4 and 5. The new industrial port, and the industrial city.

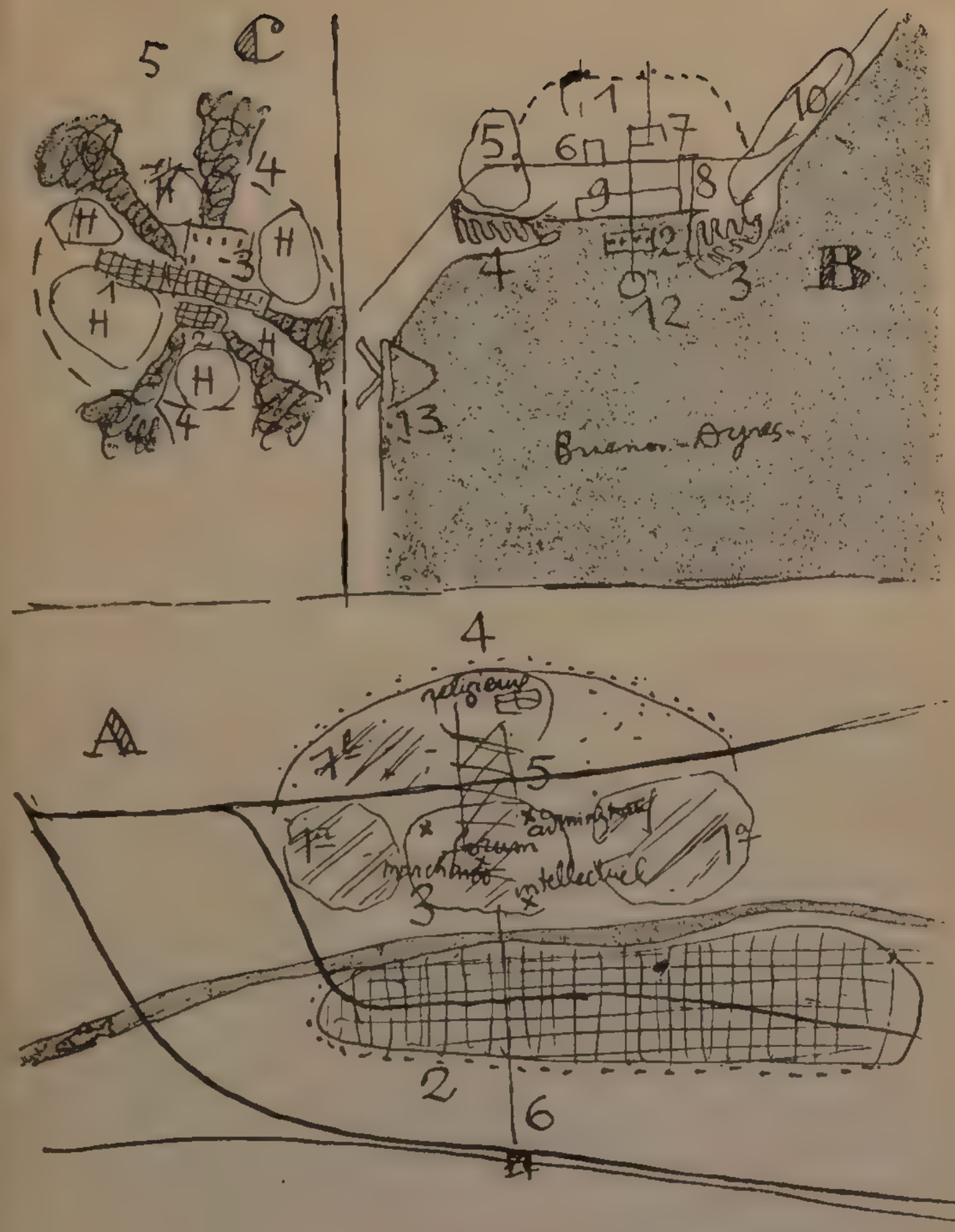
6 and 7. The Pan-American city (institutions of the Western hemisphere) and the government city (Congress).

8. The city of entertainments, theatres, concerts, music-halls, etc.

9. On the sea-front, the great park for fetes and popular rejoicings.

10. The university city and the park of Palermo on the Rio. Through all this great organism the blood circulates by a few broad arteries.

C. Here is another great tentacled conurbation recovering from illness and refinding a matrix capable of restoring the joys of life to its inhabitants. In the course of some years the suburbs will have been reabsorbed (5), for the industrial population will have emigrated to sparkling new industrial cities (see " Les Trois Etablissements Humains "); nature will penetrate within the town, along the estuaries formed by demolishing the slums flanking the incoming railroads (4). The habitable quarters (H) will be limited to the most healthy sites. The centre of public and private business will be re-established in its



DRAWING 11

old and rightful place (3). The intellectual centre is established within a specialized group of buildings (2). The historical patrimony of the old centre (1), redolent of ancient glories, is saved and preserved for the inhabitants.

b

" The Athens Charter " states :

(Article 65). " Works of architectural value should be safeguarded (isolated buildings or whole quarters)."

(Article 66). " They should be safeguarded if they express a former culture and if they respond to a general interest."

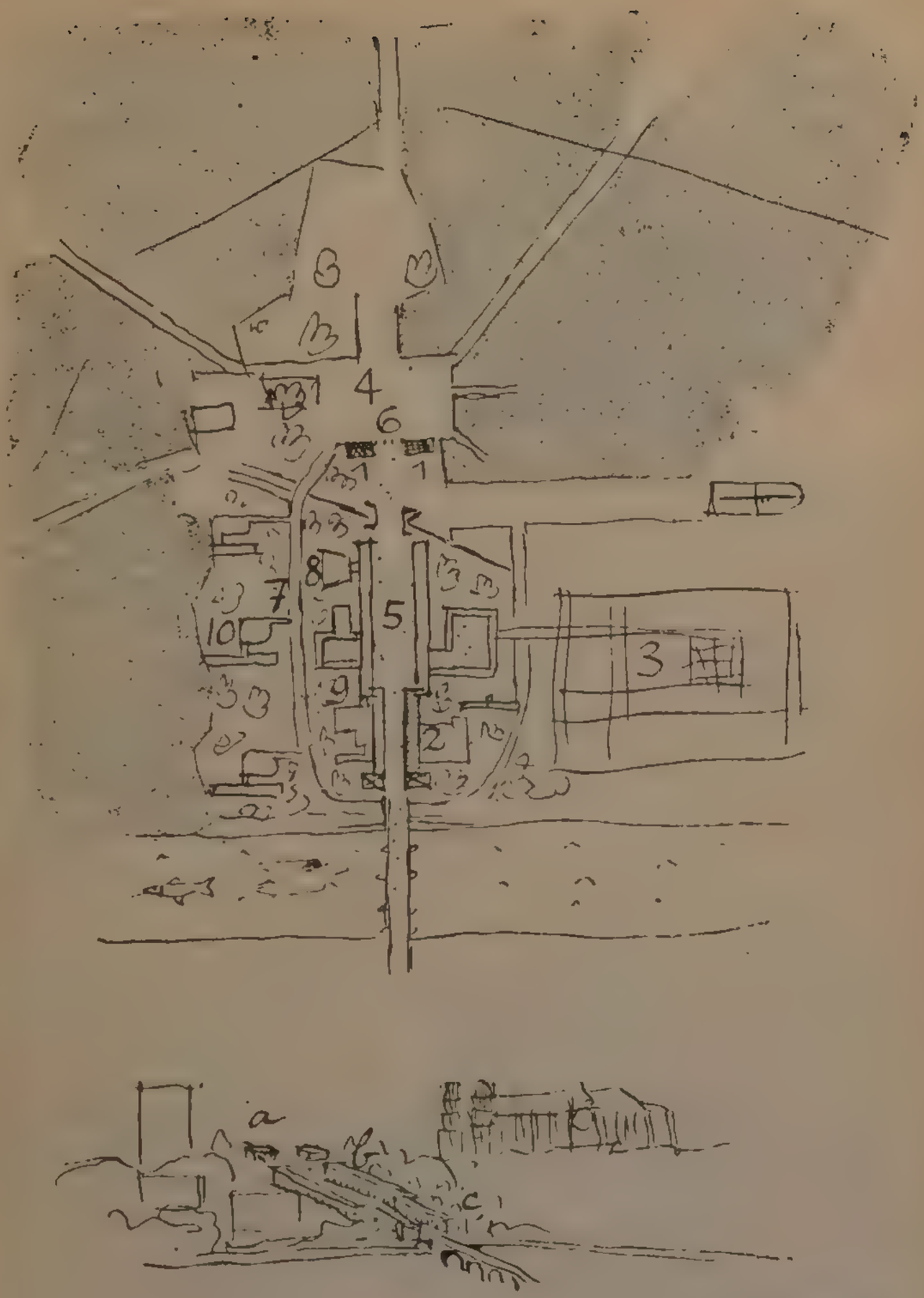
(Article 67). " . . . provided that their conservation does not involve the acceptance of low living standards by the population."

(Article 68). " . . . provided it is possible to offset problems presented by their preservation through the use of radical measures : for example the re-routing of vital channels of circulation, even the displacement of centres hitherto regarded as immovable."

DRAWING 12

Here is a town (which shall be nameless). Bombardments have spared us two little palaces (1) and a fragment of a royal road of Louis XV (2). In (3) are traces of the Roman occupation. In (4) a circulation centre which will be accentuated by diverting to it the vehicles now using the riverside road, so that this may be reserved as a pedestrian promenade. The heart of the town (5) will be reconstructed, but with certain new provisions ; it will be forbidden to vehicles by chains of bollards as in (6). Vehicles are re-routed along (7) serving the cinemas, the cafés (8) and (9) and the blocks of flats furnished with common services (10). The heart of the town is thus reconstituted and intensified, but sheltered from disturbance.

A principle has triumphed : wherever bombs have done their work verdure flourishes, and upon the wide green spaces rise new buildings. Road alignments and their resulting interior courts are abolished. And this is a paramount decision which will be well understood one day !



DRAWING 12

c

DRAWING 13

In an utter chaos, Algiers, standing on its cliffs, has hitherto wasted all its opportunities. A directive plan re-establishes order by the definition and articulation of its elements.

1. The residential quarters on the heights.
2. A circuitous route giving access to these heights.
3. Light industry at the foot of the cliff.
4. The business city (a single sky-scraper) at the point of convergence of all routes and in the centre of the port (5).
6. The civic centre on the seaboard.
7. The indigenous institutions at the foot of the Casbah (9).

The architectural symphony is composed according to the site : 4, 6, 7, 9, 1, with (in the first plan), that historic and sculptured jewel : the peninsular of the Admirauté (8).

An essential discipline is introduced : the limitation upon extensions of the town beyond its boundaries to the south, to the north, to the east (10). Outside this limit begins the open countryside (involving the dissolution of the wretched suburbs and the establishment of cultural centres within the parks surrounding the apartment buildings).

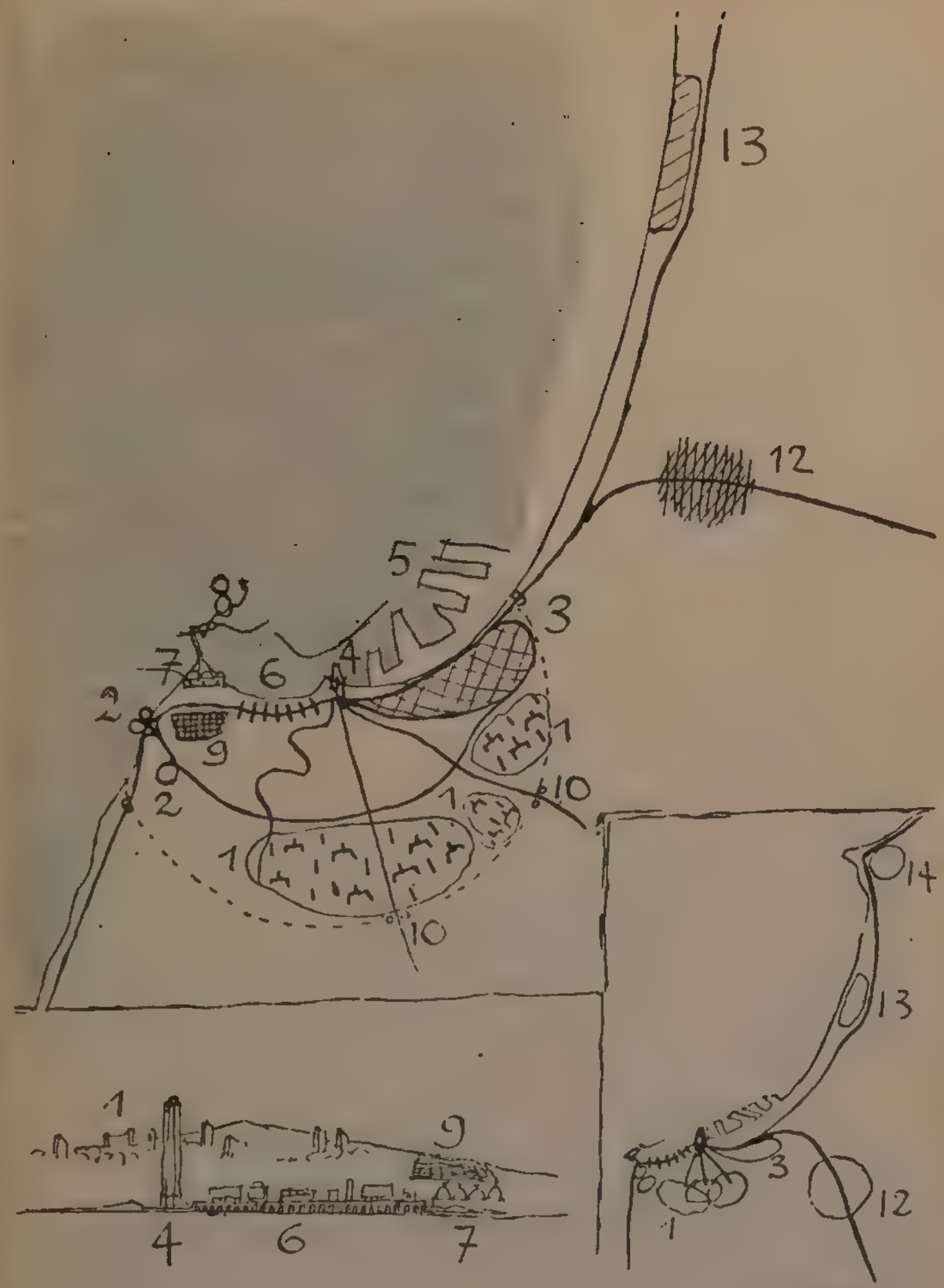
12. Heavy industry is maintained at a distance.
13. A week-end city on the Algiers roads.
14. An amusement centre at Cap Matifou (cinemas, etc.).

d

DRAWING 14

Nemours on the North African coast. A town plan made in 1934 and hailed by CIAM as representing, at that time, the purest expression of the " Athens Charter " ; the museum of Modern Art in New York has since acquired the model of this scheme. A new colonial town for 50,000 inhabitants at the head of the future Trans-African route, this town was planned to be erected in echelons of 2,500 (or 1,250) residents. The district is desert-land, but water led in from the west to the summit of the natural amphitheatre would have accomplished the miracle of an oasis : eucalyptus, date trees, apricot trees, pomegranates, flowers and crimson foliage bathed in the streaming waters.

1. The living quarter, composed of units furnished with common services. A single autostrada (on pylons) suffices to contact all the



DRAWING 13

DRAWING 14

apartment buildings (10) ; the network of pedestrian ways establishes a full interconnection.

2. Sports.
3. The civic centre.
4. The hotel and tourist centre.
5. The business city (an office building).
6. The industrial city on the western estuary.
7. The new port (already constructed).
8. The route from Algiers to Fez passes by on pylons leaving the ground free for movement of traffic from the port and the industrial city.

SIXTH QUESTION

Should quarters of habitation be composed of vast blocks of flats furnished with common services : restaurants, schools, etc., or of modest family dwellings ?

Should the residential quarters be laid out in the interior or the outskirts of a town ?

If the former, should the houses be aligned with their facades on the street, or should they form islands surrounded by gardens ?

This is the crucial point of contemporary town-planning. It needs examination with a clear eye. The ideal in mind is a dwelling assuring a maximum of liberty to the individual and designed to bring about a maximum relaxation of domestic constraints (especially for the housewife) and provoking a real fulfilment of family life.

The means proposed are on two very different lines : either the individual house, or superimposed dwellings furnished with common services.

The dwelling shelters the individual,
the couple,
the family of 2, 4, 6 children, etc.

" The family house " is an old phrase, touching and admirable, but one which does not apply, in reality, except to certain places (villages and small towns) or among certain limited classes of the population, those who already possess a family. The existence of a family house stands today upon foundations which in a large measure no longer exist.

It was founded upon a settled stability (the non-nomadism) of family-life due to the equilibrium of the old order, before the introduction of mechanized speeds. The locomotive upset that stability, then the car, the telephone, tube-trains, etc.

A society seeking to defend an equilibrium which it has already lost, looks for means of tying down the nomadic elements of a society which is in need of a new and harmonious organization of its life. By what means can it then hope to arrest the advance of time? By the attraction of the little houses of garden cities, promising family security and arbitrarily entitled: family house. This so-called family house will never merit its title, but will drag society into the universal waste land of garden cities. Universal, for the crisis is world-wide.

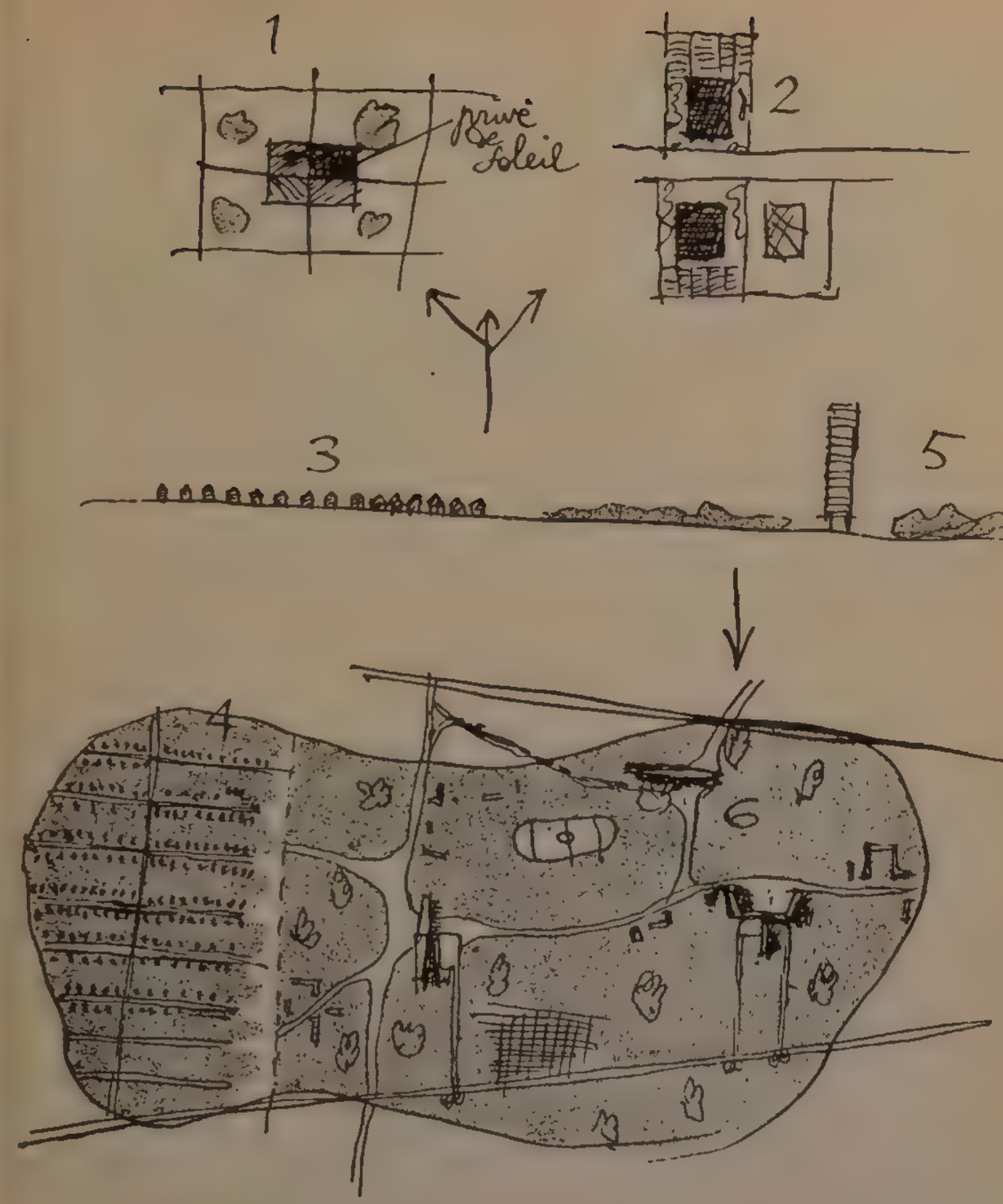
It does not merit its title because the family melts in the course of twenty years: it marries, brings up children, and sees them leave the house . . . it must be recognized that this family house has no duration. And soon afterwards it constitutes a formidable urban or interurban residue.

The garden city makes suburbs; these suburbs become the tentacles of the town. The tentacled towns provoke a great squandering of "utilities"; the laying and provision of water, gas, electricity, telephone, the crushing budget of roads and suburban railways; a fabulous host of vehicles: tramways, trains, cars, buses, etc. A gigantic expense in equipment, and a gigantic annual expenditure on maintenance. And the result of this lavish outlay? 2, 3, 4 hours of daily work exacted from everyone throughout the years of their life in order to pay for ali this confusion and equipment which add nothing to their lives but a disturbance! Fever, the daily chaos, loss of freedom. The modern form of slavery.*

Garden cities make business and building estates, philanthropic discourses and a forced social equilibrium (by attaching people daily to the extremities of suburban railways) and permit the triumph of a famous social manœuvre by the obstructive elements of society by means of a snare baited with the mirage of nature: if it is a question of living with nature then the answer is: not to live in slums; and the aim: to live intensely and harmoniously.

The garden-city is a will-o'-the-wisp. Nature melts under the invasion of roads and houses and the promised seclusion becomes a crowded settlement. I spoke above of the "horizontal garden-city" (so-called family houses). But the solution will be found in the "vertical garden-city," the fruit of modern techniques adapted to the conditions of modern life.

*There is more on this subject in "Quand les Cathédrales étaient Blanches" (Voyage aux U.S.A., 1935. Plon, Paris).



DRAWING 15

a

The demonstration begins :
In the Case of Vertical Garden-City Against Horizontal Garden-City.

DRAWING 15

3 and 4. The horizontal garden-city (individual houses dispersed on the ground).

5 and 6. The vertical garden-city (superimposed individual dwellings).

If one allows to dwellings of both categories an area of about 2,000 square feet, the result would appear as in (3) and (4) for the dispersed, as in (5) and (6) for the superimposed.

In (4) the gardens are illusory, requiring unceasing upkeep ; the roadways multiply ; conflicts with neighbours are inevitable.

b

DRAWING 16

In the Case of Vertical Garden-City Against Urban Tenements

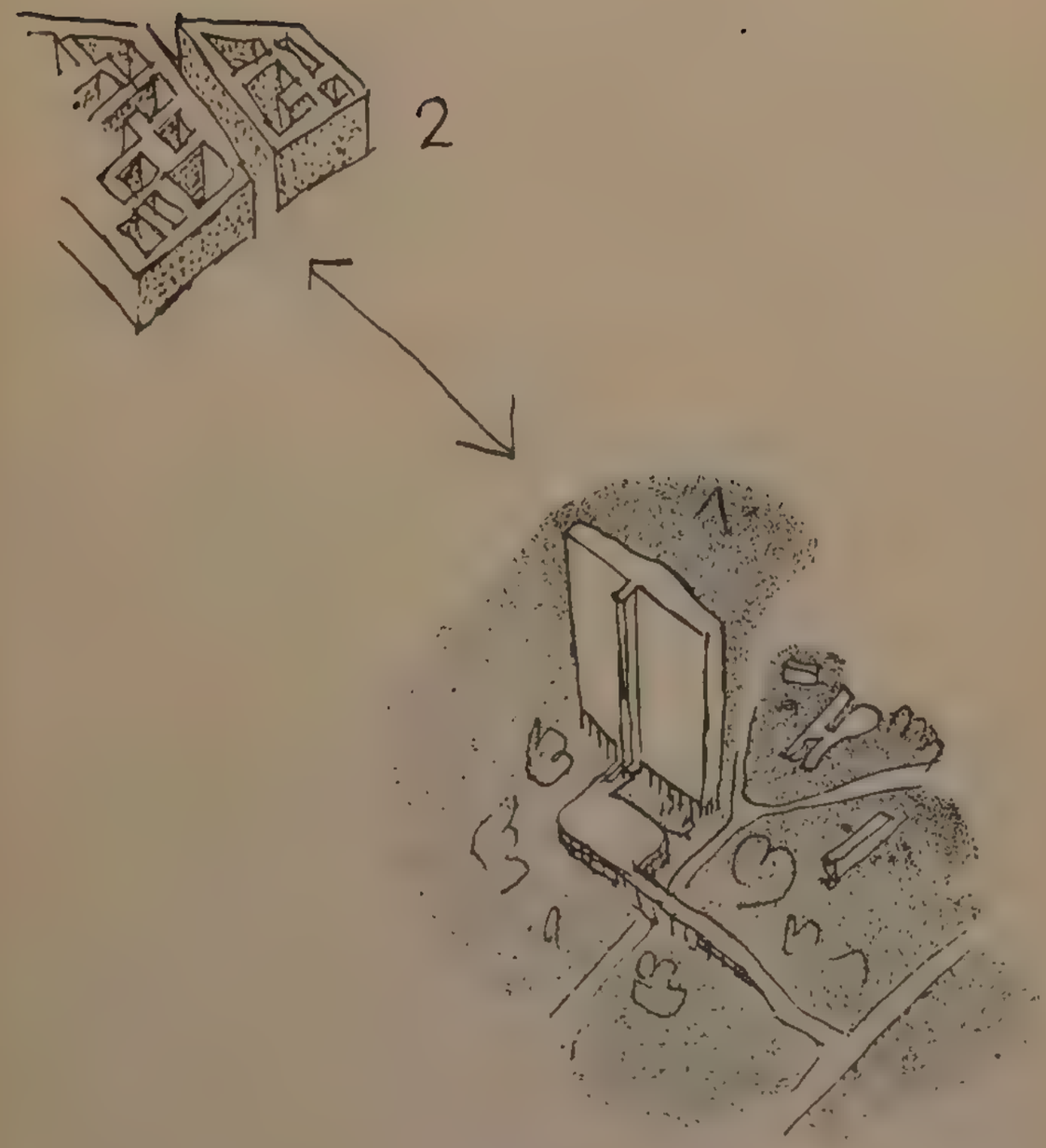
1. The organs and functions necessary for passing a pleasant, useful and propitious day are here assembled :

(*a*) the pedestrian is separated from the automobile (see Drawing 22).

(*b*) The superimposed dwellings rise above a park which contains the sports grounds, crèches, maternity homes, primary schools, clubs, etc.

(*c*) The pile of dwellings attains the capacity of a " residential unit of adequate size," adapted to house the many useful and indispensable organs that conduce to harmony in the lives of its inhabitants.

2. Here are the " built-up islands " of our present towns : dwellings whose windows give directly on streets and on courts, deprived largely (or even completely) of the sunlight necessary to the health of the body and the mind ; roads teeming with a confusion of vehicles and pedestrians, and the often indescribable sadness of nameless streets ; the deceptive biology of corridor streets perpetuated by an urban tradition based on the old constraints of military walls.



DRAWING 16

c

DRAWING 17

The Essential Joys

" The materials of town-planning are sunlight, space, verdure, steel and reinforced concrete, in that order and in that hierarchy " (" The Athens Charter ").

Modern techniques (the now accomplished architectural revolution) bring a new solution to the problem of the dwelling.

Principles of the architectural revolution : houses raised above the ground on columns, independent framework, the free plan, the free facade, roof-gardens.

In (1), a man stands on his floor, before a wall of glass, facing the sun, space and verdure. His eye *sees* these things. A road leads to his dwelling.

The floor that we speak of does not lie on the ground but above it, at a height of 30, 60, 90, 120 feet. The higher one climbs, the finer the spectacle. And the road has left the ground to become an " interior road."

In (2), this dwelling has been multiplied (5) about a spine (2) which represents a perfect system of vertical circulation (passenger and service lifts, escape staircases, hall and interior road on each floor) which, leaving the reception vestibule on the ground floor beneath the columns (4), ascends as high as the roof-garden (8), where the physical culture rooms (7) and the sun and water-therapy installations are situated. Between these extremes are the superimposed lodgings (5) which are bisected by a floor given over to restaurants and a service installation on hotel lines (6).

The ground is the domain of pedestrians ; cars approach the door by a ramp (3).

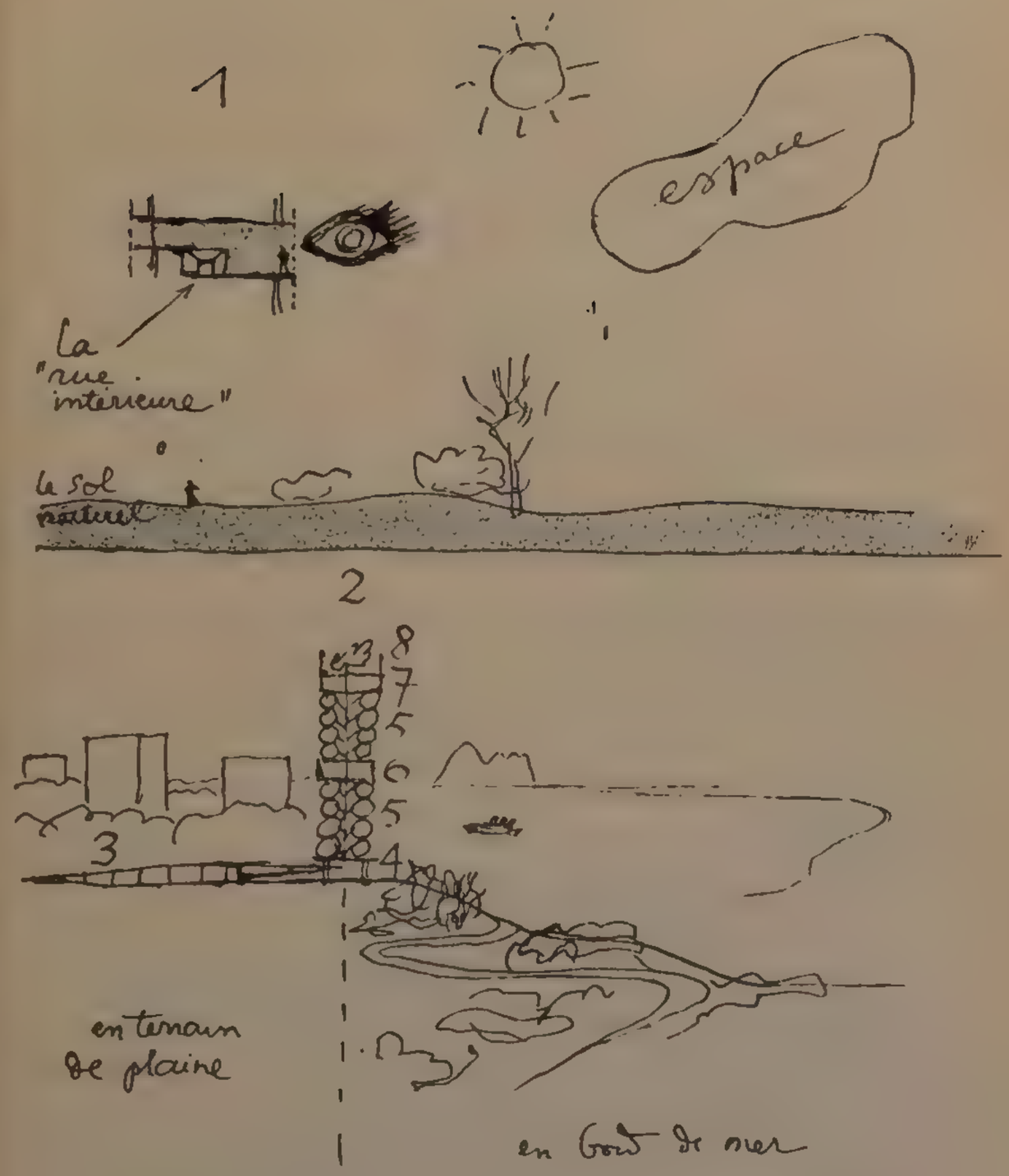
Around the building, of which this sketch explains the section, extends a panorama : level lawns and trees (on the left) ; the sea, the road and the cliffs (on the right).

d

DRAWING 18

Liberation of the Mistress of the House

Liberation from domestic ties by the organization of hotel services for food and domestic work.



DRAWING 17

A, shows the vertical section ; B, the longitudinal section of a " vertical garden-city " (a habitation unit of appropriate size).

In the heart of the building, and throughout its length, are ranged hotel services (restaurants and domestic service (1)).

Food : storage and distribution of all types of provisions ; residents may order raw food-stuffs, prepared foods (washed, peeled, etc.), or meals ready for the table. Domestic service : this would be arranged by individual contract with each inhabitant according to his needs and would cover cleaners, washers up, valet service, laundry (hand and power), hairdressing, window cleaning, etc. In (2), the necessary elevating equipment (chain elevators, lifts, etc.), for the movement of people and commodities.

ASCORAL, in discussing " Domestic Equipment," proposed : " The hotel industry should take over the private dwelling and feed the population on every level of the social scale."

This year, Paul Claudel (the great poet) proposed an analogous idea, which he based upon the sound traditions and native wisdom of the French people ; " the fact which necessitates a revolution in the art of housekeeping, and which the war has brought distressingly to a head, is the disappearance of domestic servants . . . the remedy lies in distinguishing between general services and private service, which should be the chief directive principle of new residential architecture."*

Paul Claudel signs : President de la Ligue Urbane et Rurale. And the Ligue Urbane et Rurale regards us as the anti-Christ !

e

DRAWING 19

The Town-Planning Revolution

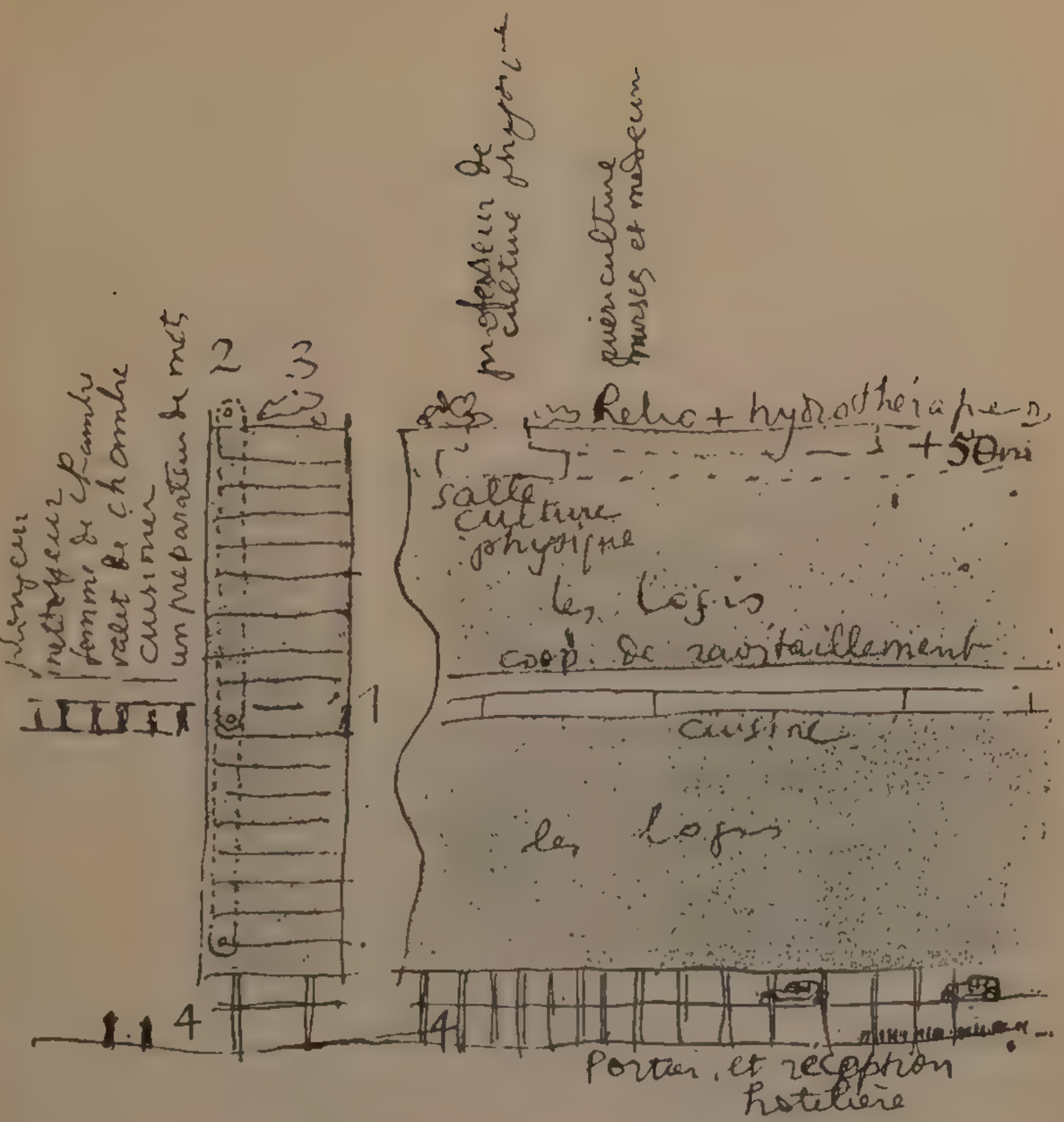
In order that the ideas recently expressed by Paul Claudel and expressed unceasingly in my own writings, in twenty volumes since 1919, may materialize, it is essential that the town-planning revolution should be brought about, since it alone can establish the necessary conditions for the revolution in the art of housekeeping desired by the poet.

The house must leave the street (and the notion of " street alignments " must be abandoned).

The interior court must be repudiated.

A sufficient number of dwellings must be assembled in one building to liberate, by this concentration on a point, a considerable area of open ground.

L'Hygiène Sociale, No. 9, November, '44.



A
la coupe en travers

B
coupe en long

plongeur	...	... dishwasher
nettoyeur	...	... cleaner
cuisinier	...	... cook
preparation de mets		... food preparation
A	...	... cross section
B	...	... long section
puericulture	...	... child welfare

DRAWING 18

By this means, the site will be effectively enlarged and made one with the surrounding countryside ; seen through the glass wall of the dwelling the trees and hills and fields become a permanent extension of the home : " Nature is entered in the lease."*

The ground thus gained is given over to pedestrians, since (as we shall see further on) vehicles will henceforth speed over a specialised road network. The pedestrian ways encounter no obstacles from the dwelling units, since these are now raised clear of the ground upon columns. (A recent application of these principles has been made in Brazil, and was illustrated in THE ARCHITECTURAL REVIEW, March, 1944).

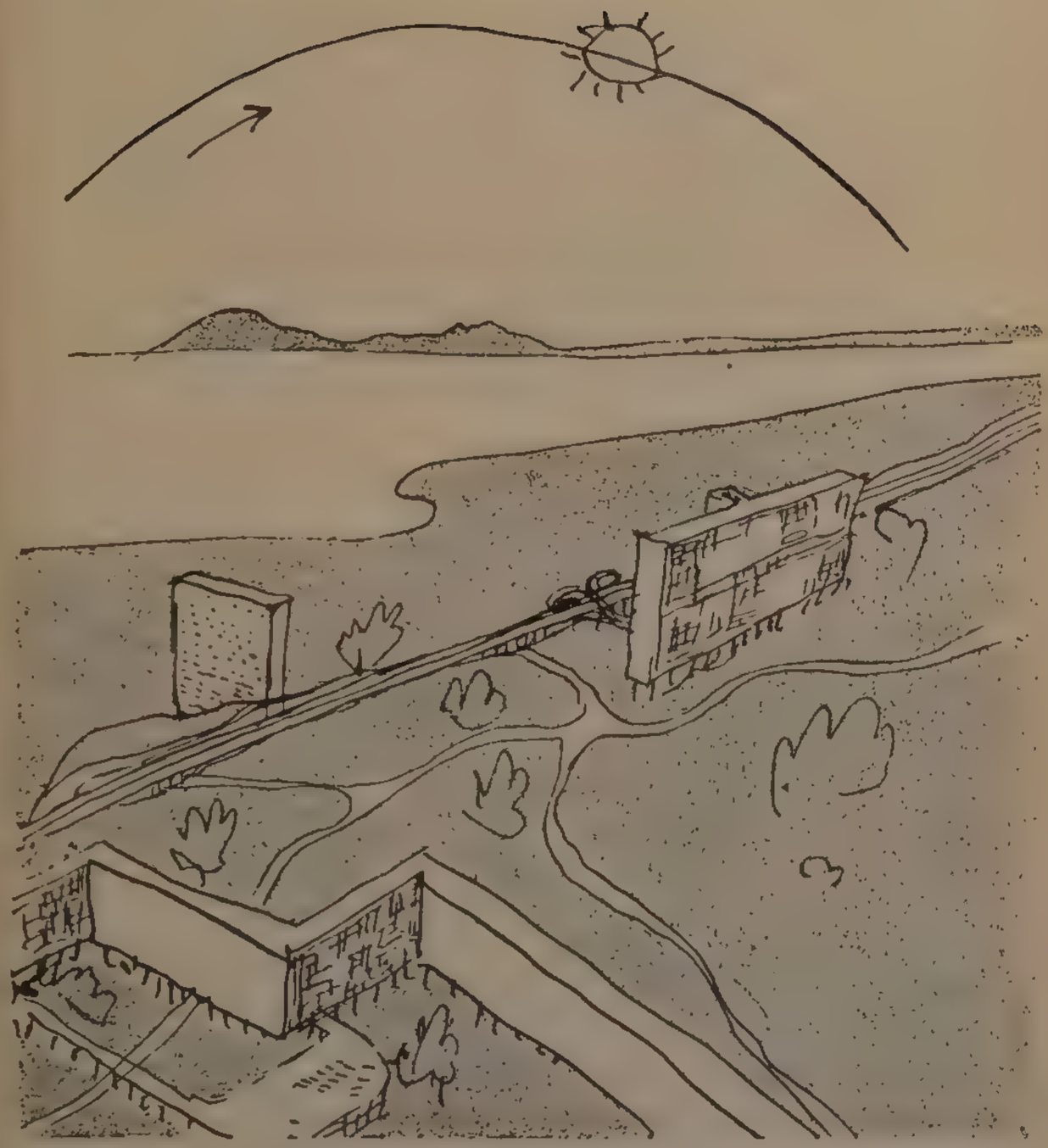
f

The Sterility of Half-Measures

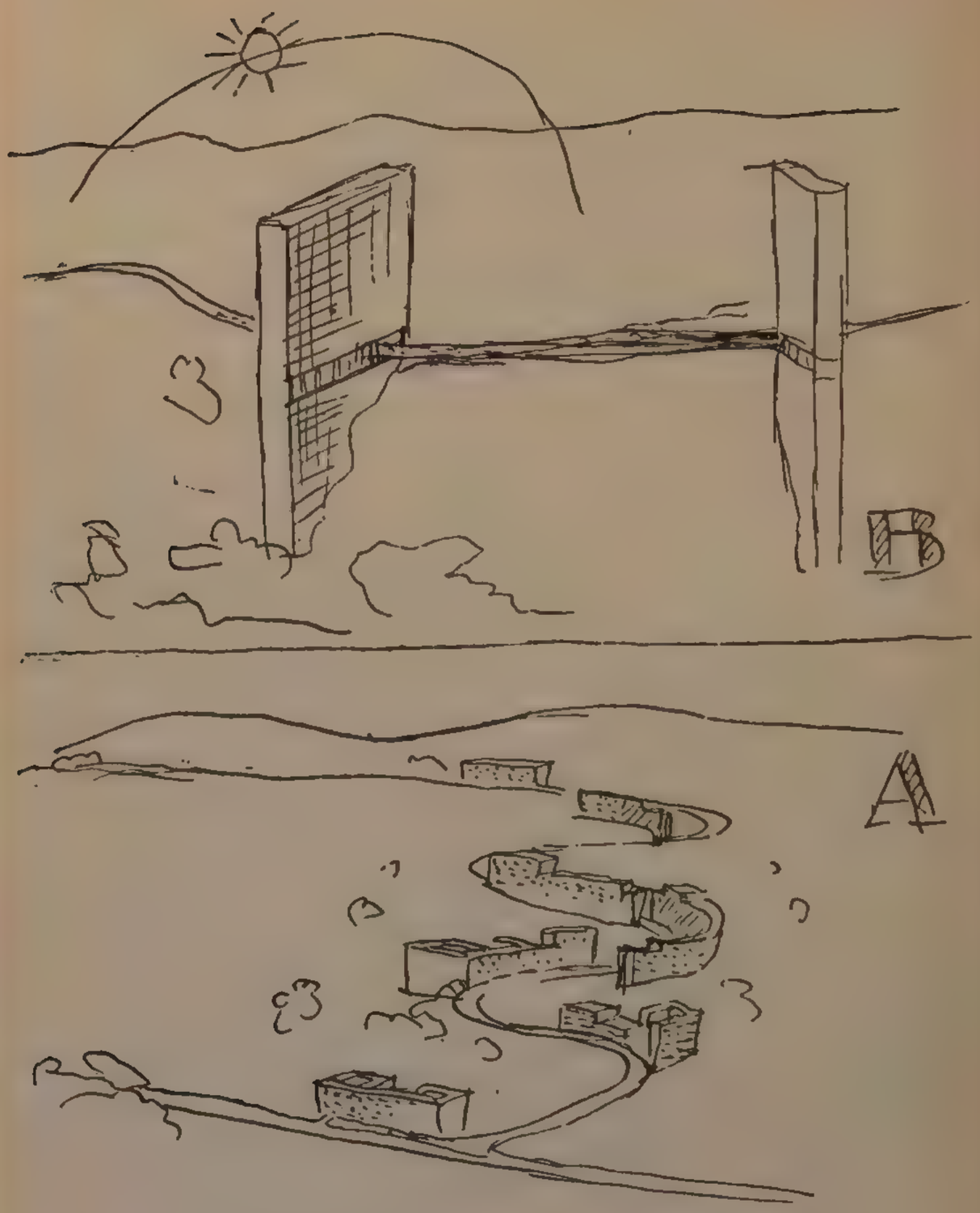
The abandonment of the horizontal garden-city has sometimes been accepted on account of its disastrous economic consequences, but in order to avoid taking the leap which is needed to arrive at " a dwelling unit of adequate size," a limitation of height of 4 or 5 floors is often imposed (as in the U.S.A. in 1935). " In this way," it is claimed, " lifts will not be necessary " ! Why this terror of lifts ! One accepts without demur the electric traction of trams and trolley-buses, the petrol motor of the bus, the subterranean adventure of the electric railway, etc. . . . I agree there may be occasions where the installation of automatic lifts may result in abuses by the irresponsible. But to this evil there is a simple remedy : the provision of lift attendants. This means three professional lift men to cover the twenty-four-hour day, to pay whom a large clientele is required ; another reason for the provision of dwelling units of an adequate size, i.e. for 1,000, 1,500 or 2,700 inhabitants. Built on these dimensions, the dwelling unit allows the organization of innumerable common services and extensions of the home, for instance : physical culture, medical services and preventative medicine, sport at the foot of the dwellings, organization of services on hotel lines for food and domestic work, etc., etc., and finally the achievement of a separation of pedestrian from automobile (which is no mean advance).

Town-planning will be wholly changed. We know this. And the aeroplane showing us these things from above, confirms it.

La Maison des Hommes, Plon, 1942. An English edition is now in preparation by the *Architectural Press*.



DRAWING 19



DRAWING 20

DRAWING 20

As an incidental illustration of these principles, here is a simple example of the limpid solution they permit as opposed to the customary confusion :

A town on a steep slope or on a hillside :

In A, houses of 4 floors ; the doors and windows open on the street ; the street zig-zags, the houses zig-zag, resulting in an arbitrary and chaotic orientation of the dwellings.

To enter and leave the town there is needed at least one high-level and one low-level road in addition to the zig-zagging road.

In B, one road suffices, half-way up the slope ; the height of the lift shafts is bisected ; economies all along the line.

In place of confusion, an architectural amplitude of simple splendour.

This is the crucial point of town-planning. . . .

To sum up : the town, no longer a pitiless quarry of stone, becomes a park.

Etc., etc.

SEVENTH QUESTION

How and where would you site the industrial centres? Should these centres be in the form of autonomous cities or satellite towns? Should the workers' dwellings be sited close to or far from the factories?

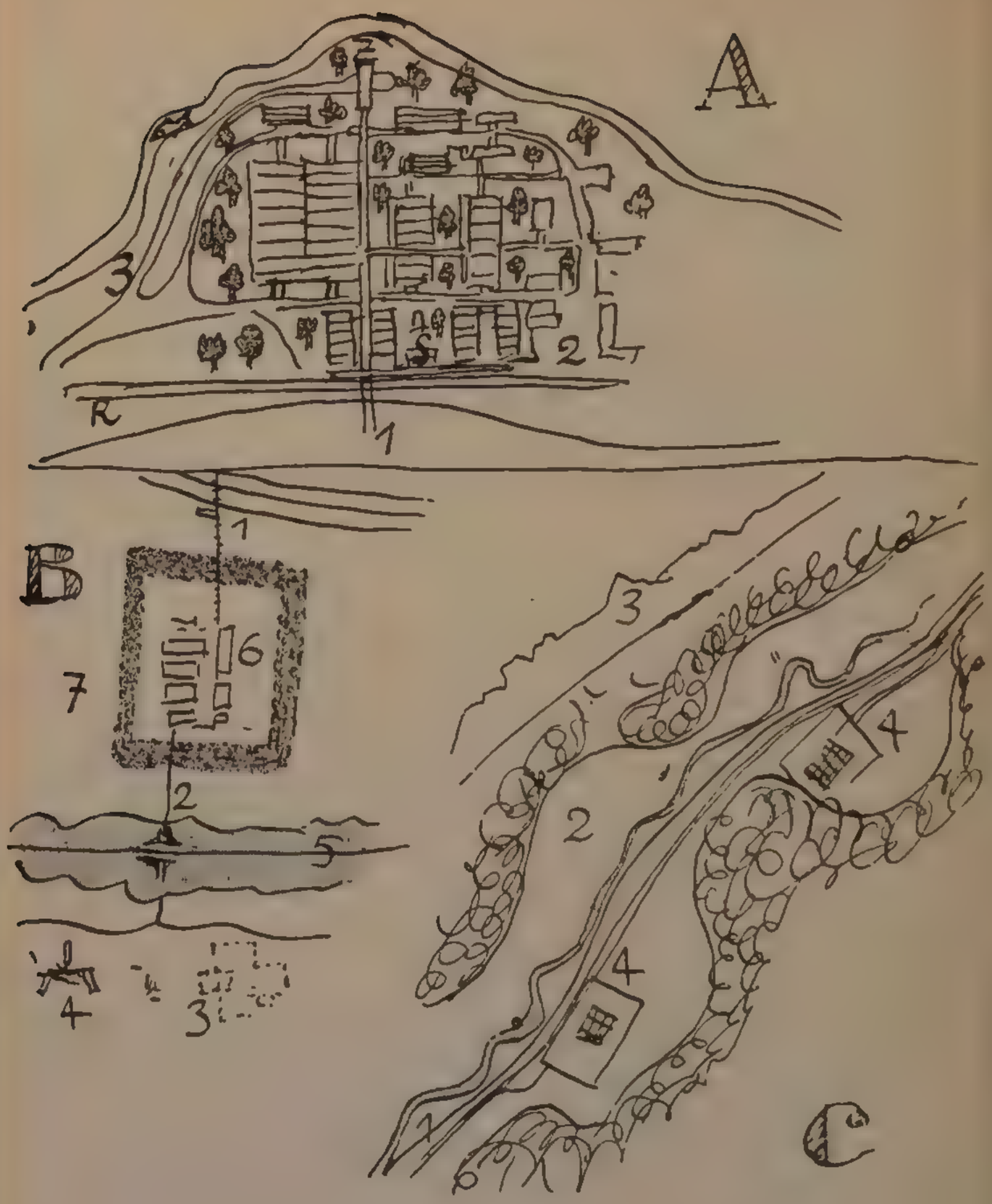
DRAWING 21

This was largely replied to in the answer to the third question (Drawing 6 the " linear industrial cities ").

From the first book by ASCORAL (" *Les Trois Etablissements Humains,*" 1945), we can draw further material : the basic brick of the linear city is the industrial establishment itself, which is conceived in the new form of a " green factory."

In A, a green factory for 3,500 workers. It is set in rustic surroundings, this siting and its maintenance being made possible by rationalized communications.

1. The administrative personnel and the workers reach their place of work by means of covered ways which cross the ganglion of buildings at roof level, giving access where necessary by means of staircases that pass by the cloakrooms and toilets before reaching ground level.



DRAWING 21

2 is a metalled yard adjoining the railway, R, for the distribution of raw materials to the workshops in which manufacture is carried on, the processes ending up in the general warehouse and loading bay, S.

3 is the vehicle road leading to the administrative offices, Z. These roads are of concrete cutting sharply through the natural greenery of the site. This grassland is left intact and abuts on the walls of the factory buildings. These buildings are so disposed as to leave verdant plots and gardens around them, overlooked by occasional glass walls in the facades. Through these great windows streams the sunlight, and through them the workers can see lawns and trees and flowers on all sides.

In B is shown the lay-out of a " green factory."

1. On one side only run the four contemporary routes : road, rail, water, and air. Perpendicular to these routes extends a mechanized system of vertical loading and warehousing.
2. Entry of workers and staff.
3. The horizontal garden-city and the vertical garden-city, 4 ; between which a free choice is offered to the inhabitants of the linear city.
5. The elevated motor road running throughout the length of the city.
6. The buildings of the " green factory."
7. A ten-deep row of poplars constituting, in fact, a minor forestry operation ; these trees are felled at the rate of one row every two or three years, providing wood for crating and carpentering. Its primary purpose however is to form a screen of foliage around the workplace.

In C, a valley designated for the reception of new industry.

1. The river.
2. An agricultural belt.
3. The sky-line of the Pyrenees.
4. An industrial establishment of the " green factory " type. Following this pattern new industries can be established in the now silent valleys, with a minimum of disturbance and damage to agriculture and the natural beauty of the district. The countryside will be preserved by a severe but creative statutory discipline.

EIGHTH QUESTION

Do you see either the opportunity or the necessity of creating, in large towns, two separate road systems, one reserved for pedestrians and the other for vehicles, or can you suggest any different solution to the problem of circulation?

Since 1930, there has been in existence a complete reply to this question : the "*Ville Radieuse*" system of town-planning, which was set forth in a book of the same name. This theme has been successively developed and expounded in the course of a continuous series of works : "*Des canons des munitions. Merci . . . des logis s.v.p.,*" "*Destin de Paris,*" "*Les Quatre Routes,*" "*La Maison des Hommes,*" and in the recently published volume by ASCORAL : "*Manière de Penser d'Urbanisme.*" (I mention these writings in order to show the great importance we attach to this question).

From the germ of this theme were hatched the town-plans for Nemours, Stockholm, and Anvers (1934), Algiers (1930-1942), Buenos Aires (1939), etc.

This theme has often been the subject of discussion by architectural congresses especially those of CIAM (the Athens Congress of 1933). Year by year its central doctrine has spread out through the world, provoking its varying responses in each country and continent. In the U.S.A. above all, where the evils of circulation were felt acutely, it has found its most dazzling applications, which are now well known : e.g. the sensational road-crossings in New York and the parkways of Connecticut.

The answer to the question proposed here can be formulated as follows :

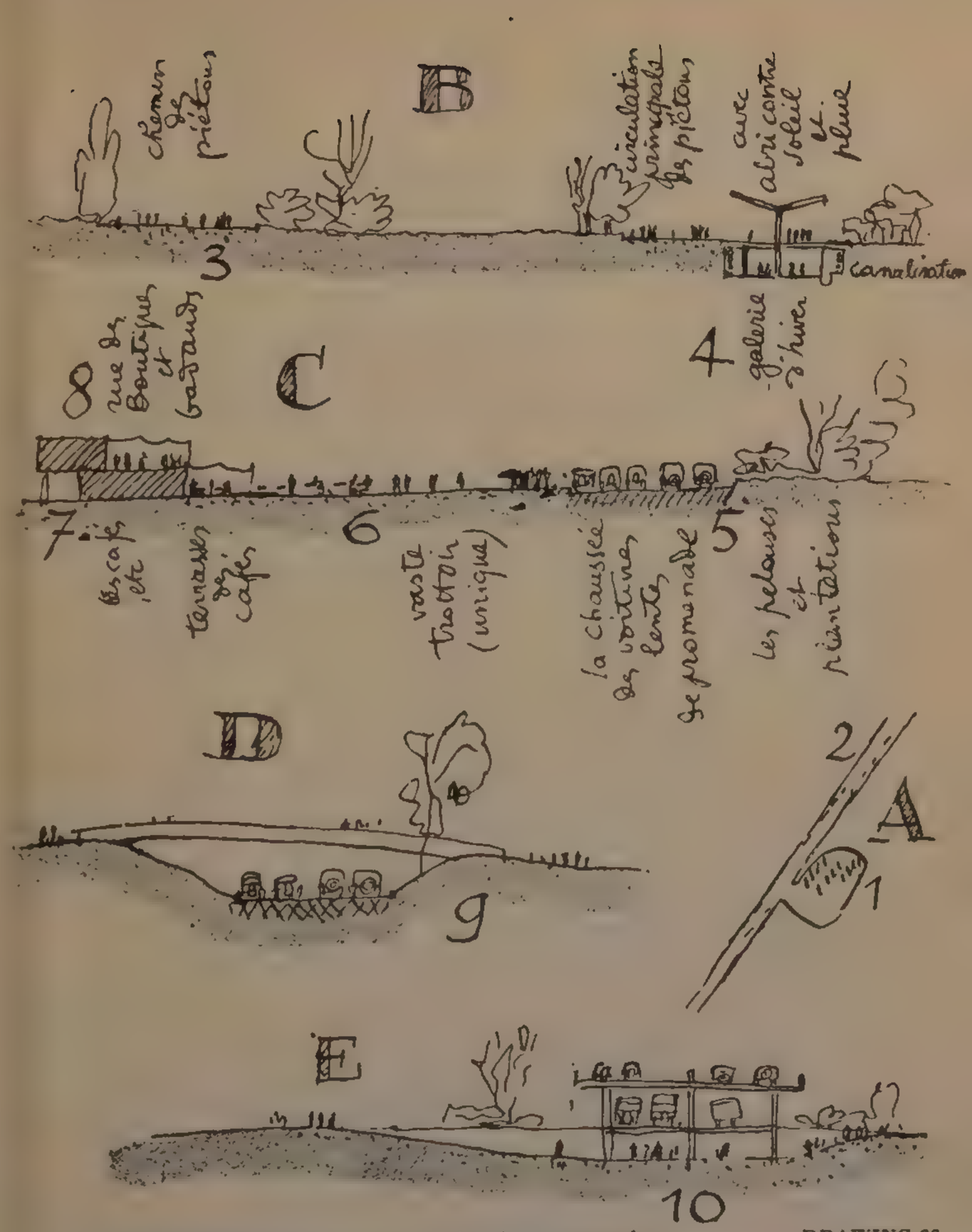
a

DRAWING 22

Mechanized Speeds : A Revolution in Human History

From man's walking speed, or that of his horse, his ox or his ass (3 miles an hour), his rate of movement swept quickly up to 30, 60, 200 and now 500 miles per hour and above to unknown limits : automobile, locomotive, and aircraft.

The tremendous difference between mechanized speeds and the natural pace of man has installed a permanent danger on the roads of the countryside and the streets of the town. The road system of the



B. *chemin des piétons* ... ... pedestrian promenade
circulation principale des piétons ... pedestrian highway
abri contre soleil et pluie ... ... shelter against sun and rain
galerie d'hiver ... ... winter pedestrian road
canalisation ... ... piped services
C. *vaste trottoir unique* ... ... spacious side-walk, one side of the street only
la chaussée ... ... the roadway
voitures lentes de promenade ... cars promenading at restricted speeds
les pelouses et plantations ... lawns and shrubs

DRAWING 22

pedestrian is peopled by adults, children, old people, and mothers with prams, walking on their separate ways, quickly or slowly.

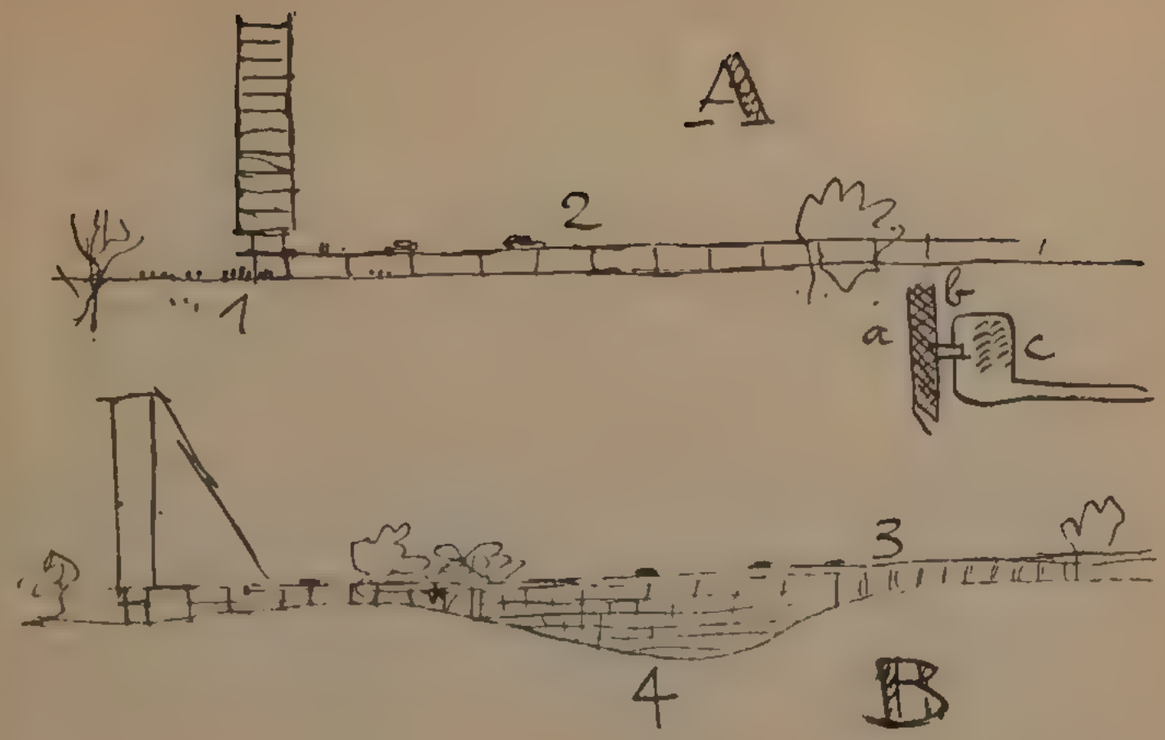
These roads should receive no surcharge, on the same level, of cars, motor-cycles, lorries, buses, trams, etc.

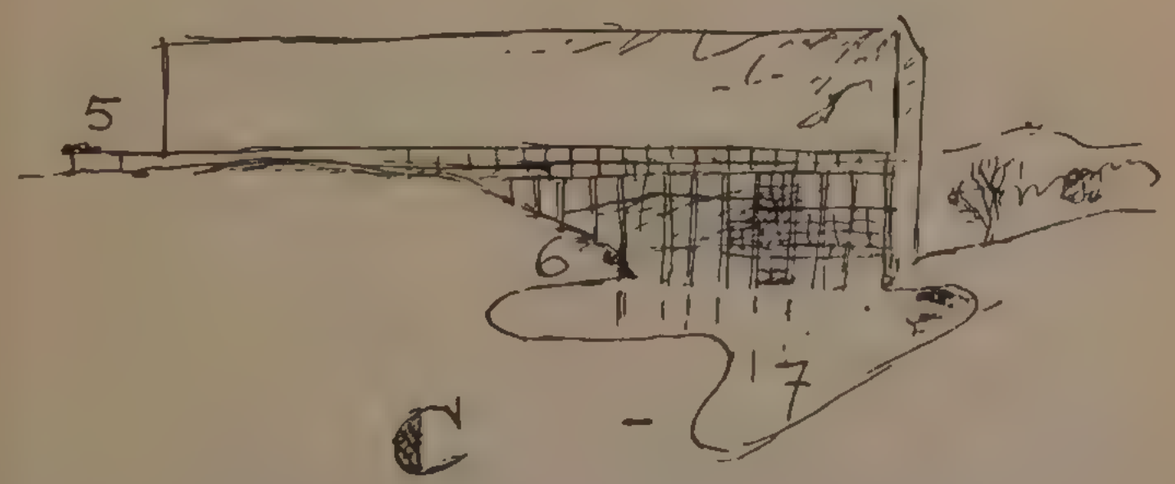
The greater the speed, the straighter must be the course of vehicles and the more clearly defined the boundaries and channels of their movement. These boundaries will be parallel ; vehicles will not be allowed to stop between these boundaries (since this would reduce the width of the moving stream). To avoid this bottle-necking the road system is so arranged that the vehicles have no call to stop except at specific points, such as the entrance to a dwelling unit or other destination of a similar scale, where they would be able to pull off the road on to prepared and sheltered car-parks. These principles have led to the concept of the motor-road with regular and parallel curves (2), and with facilities for parking outside the channel of vehicles—in car-ports (1) A.

In principle, the pedestrian must be separated from the automobile except at specific points where contact is desired : such as the car-ports for parking (1) A, or in properly designed boulevards for promenading (5) C. (6) shows the great pavement for the use of strolling crowds, which is flanked by terraces of cafés and bars, etc. Along (7) run the delivery vehicles (electric wagons, etc.). (8) shows the elevated terrace giving access to high-class shops and craftsmen's studios.

The fast moving traffic runs elsewhere, for instance in cuttings (9) or on columns as in (10). At ground level run the heavy goods lorries, trams, buses, etc. The pedestrians, whose right of way extends everywhere throughout the parks of the town's surface, cross this network of fast moving and dangerous traffic by means of little rustic valleys which pass beneath the lower road-deck (10).

The pedestrians have their footpaths and their promenades (3) laid out among lawns and trees. One could even envisage great avenues for pedestrians (4) of which part might be covered by a parasol or umbrella of reinforced concrete forming a continuous shelter. A section through this proposed avenue shows the creation of a subterranean winter gallery for particularly cold countries, or for places open to beating winds. A further and important development made possible by such a system of roads is the rehousing of canalized services beneath the decks of the elevated roadways, where they would at all times be easily accessible, in place of the customary excavations for the repair and maintenance of pipelines rotting beneath the ground.





DRAWING 23

b

DRAWING 23

Circulation, independent of every Terrain

Consequent upon the separation of pedestrian and motor traffic the dwelling is approached differently by each. The pedestrians are on the ground, as in A (over which they are free to move in every direction, see Drawing 26) ; at the door of the dwelling house they find the reception halls and the lifts (1). Cars draw up fifteen feet over their heads on the motor roadway, differentiated by its level (2).

On plan, the car port (*c*), the porch of the dwellings (*b*), the superimposed dwellings (*a*).

Though the ground may be uneven, (B) the motor roadway is no less horizontal: in (3), where a dip intervenes, the substructure of the motor-road occupies the hollow, affording sheltered floor space which would soon be put to some appropriate use.

Finally, if perchance the ground levels should be unusually chaotic, the descending columns of the building would seek their own foundations wherever they could find them ; part or all of the resulting substructure being developed for habitable or other purposes. One can envisage, in particular circumstances, the formation of a barrage by these means, thus creating an acceptable pool or lake (7). (Which merely serves to show the elasticity and limitless changes that a purely conceived and fecund structural discipline allows). The elements of modern technique : stilts, the glass facade, classified circulation, separation of vehicles and pedestrians. Such attainments are of the greatest import.

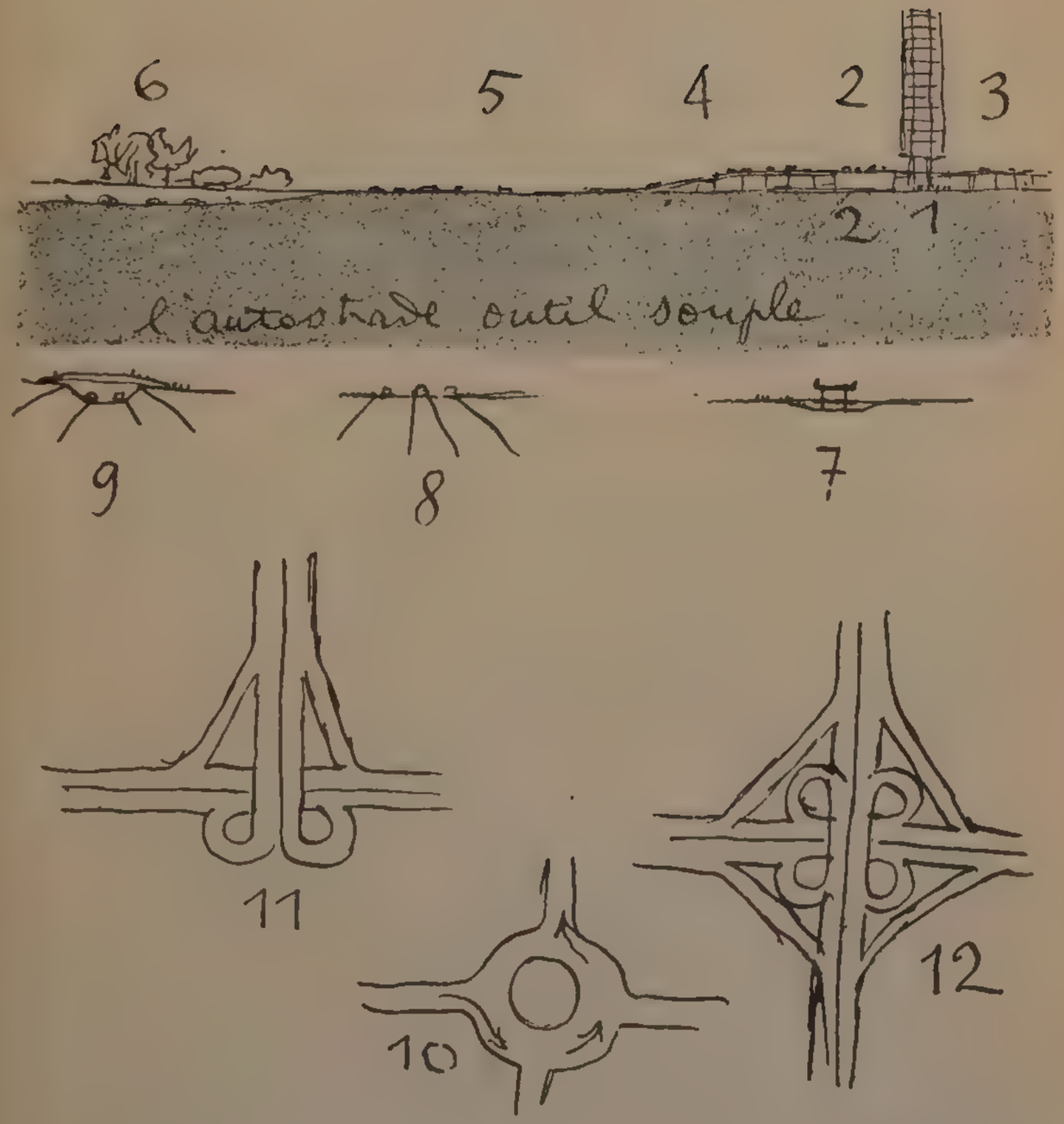
c

DRAWING 24

Suppleness

But the motor-way throughout its length may be curved or bent in accordance with the exigencies of the ground and its layout. In (1) we see the pedestrians, beneath the stilts. In (2) the car port with its vehicle access 15 ft. above ground (3) ; a ramp can make easy contact with the ground level (5) ; and, at a propitious moment, the autostrada is effaced, disappearing into a cutting (6).

The profiles of these motor roads are shown in (7) above ground, in (8), at ground level, and as a cutting in (9). And a whole science of



DRAWING 24

l'autostrade outil souple ... the flexible traffic bearing ribbon

road-crossings has rapidly grown up since the creation of engineered motor-roads. (10) shows a simple crossing based on one-way circulation, the roundabout. (11) shows the linkage between a national route and a transverse offshoot. (12) is the famous clover-leaf crossing, the magic sign against the menace of mechanized speeds.

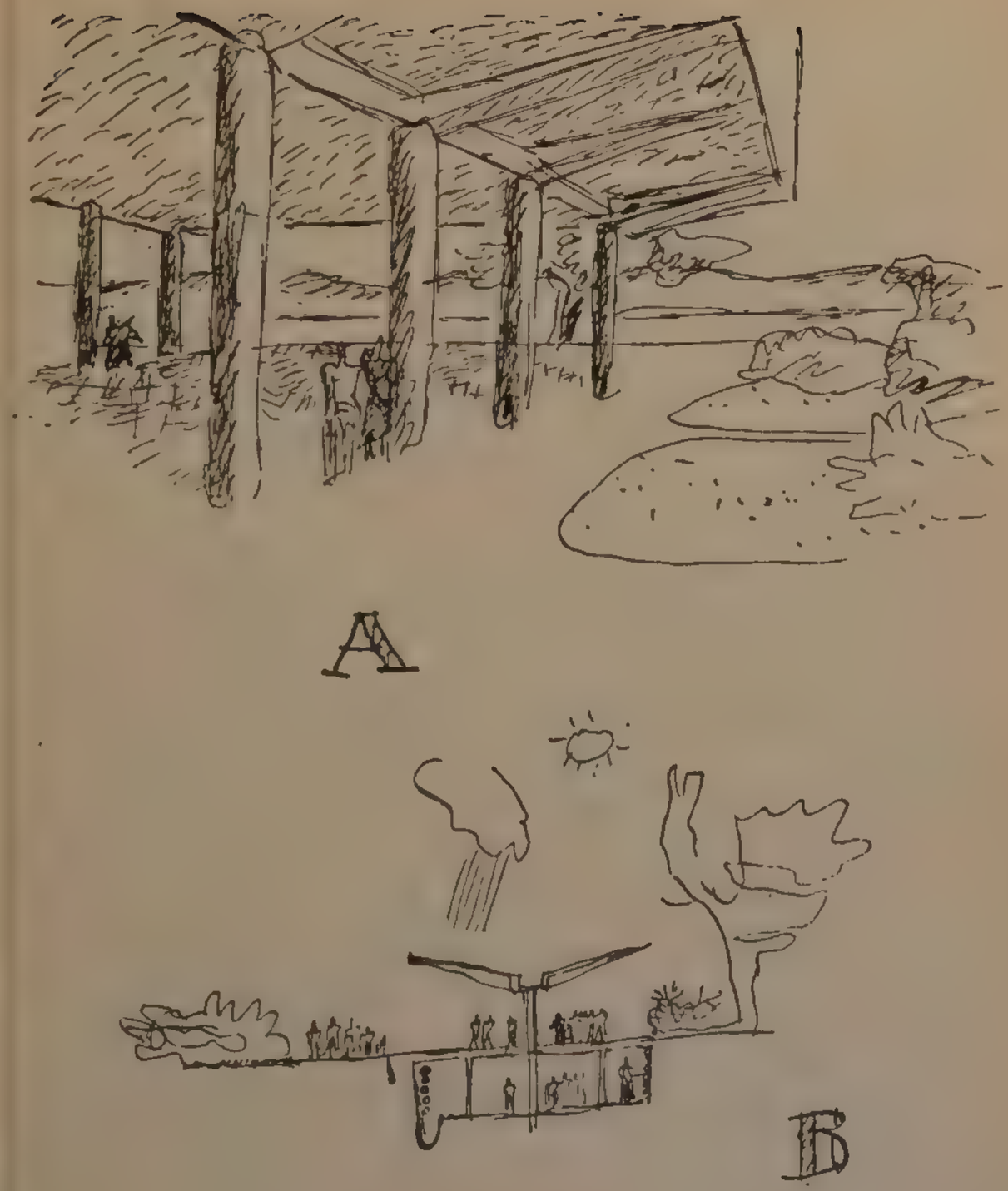
d

DRAWING 25

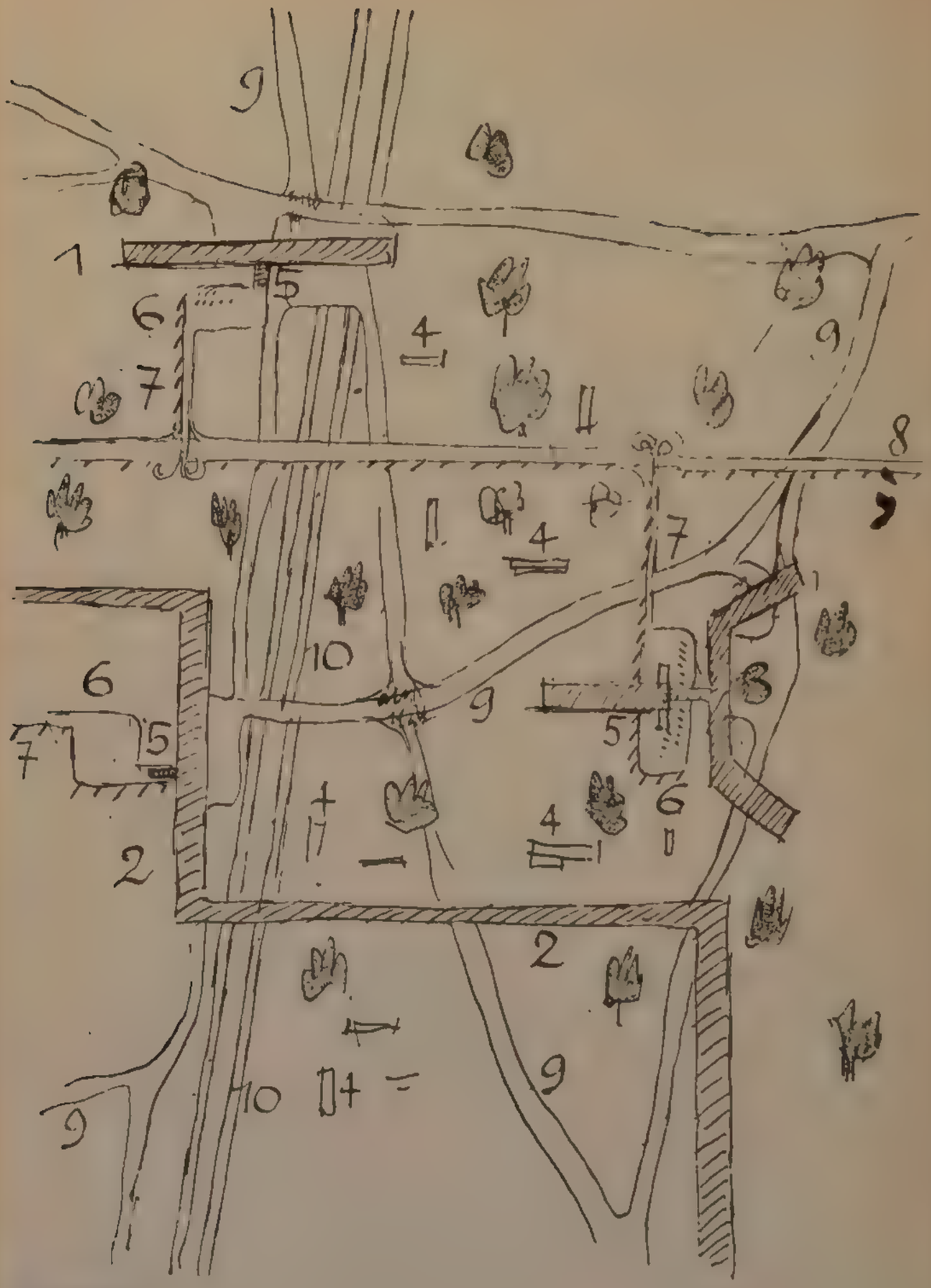
Another Victory of Modern Technique : Stilts

They appeared on our very first plans, since 1922 (" Une Ville Contemporaine," the La Roche house at Auteuil, 1923 ; Villa Savoye at Poissy, 1930 ; the project for the League of Nations palace at Geneva, 1927 ; Palace of the Centrosoyus at Moscow, 1929-34 ; the Swiss Pavilion at the University City and the Cité de Refuge of the Salvation Army, both in Paris, 1931, etc.). They have since appeared regularly on all our town plans. However, many fearful critics grew concerned and protested against them. In 1936 I introduced stilts into the plans of the Palace of the Ministry of Health and Education in Rio de Janeiro ; the building which Philip Goodwin, President of the Architectural Section of the Museum of Modern Art in New York hailed as " incomparable " and as " the most beautiful office building in the Western Hemisphere." (I relay these praises only to deprive these anxious critics of the chance of decrying once more this new element of building. Whilst we seek to immortalize ourselves by thinking or talking of the Golden Age, other countries and other peoples have already set off upon the conquest of future beauty). It was in this building also that we made the first use, with great success, of " sun-breakers," invented in 1933 for Barcelona and Algiers, and now put to the test of practice.

Stilts, " the key to the problem of circulation posed by great cities " (to quote Professor Maurin of the Faculty of Science in Paris, 1933), have been regarded, since 1937, as an essential element of the new official edifices of Rio de Janeiro, bringing with them wherever they are used a beginning of the liberation of the ground. One fine day, the city fathers will comprehend, and stilts will be recognized as the indispensable foundation of town-planning. The rule will appear in all its simple clarity : high blocks of dwellings, palaces, schools, houses, etc., will be orientated according to the sun and the best view ; the ground, level or undulating, will be furrowed by communications entirely independent of the buildings ; neither pedestrians nor vehicles will encounter buildings as obstacles to movement ; they will pass beneath buildings, through



DRAWING 25



DRAWING 26

buildings. The ground surface of the town is henceforth without limitation or restriction, its whole extent being given over to pedestrians, and vehicle traffic cradled in a separate network.

Beneath the stilts we can find shelter, and through their formal ranks can see the green perspectives of the park.

e

DRAWING 26

No Obstacles to Movement

Here are several types of vertical dwelling units in a verdant town :

1. A simple unit.
2. A set-back.
3. A Y-shaped unit.

The ground may be flat or uneven. In any case it is a park, laid out with lawns and containing the many buildings necessary for the extension of the dwelling : crèches, maternity homes, schools, clubs, etc. (as above, Drawing 15).

Each dwelling unit has its door (5).

The car port is adjacent to this door (6), the garages are beneath (2, 3 or 4 floors underground if necessary).

A slender viaduct links each car port with the elevated motor road, which follows its own straight course (8), indifferent to the dwelling units.

The pedestrian ways are on the ground, spun out between their natural ports of call.

There might also be, as in (10), a national motor route housed in a cutting or a half-cutting.

A correspondent writes : " Why don't you put the cars on the ground and the pedestrians on road bridges ? " And it is a common reaction, which shows how people will argue against all reason only to take the opposite view.

NINTH QUESTION

What do you think of pre-fabricated houses? Do you consider that houses of which the elements are manufactured in series in factories and transported to the site, can accord with the natural setting, to which they will be foreign, or be able to adapt themselves to the widely varying character of the French countryside?

DRAWING 27

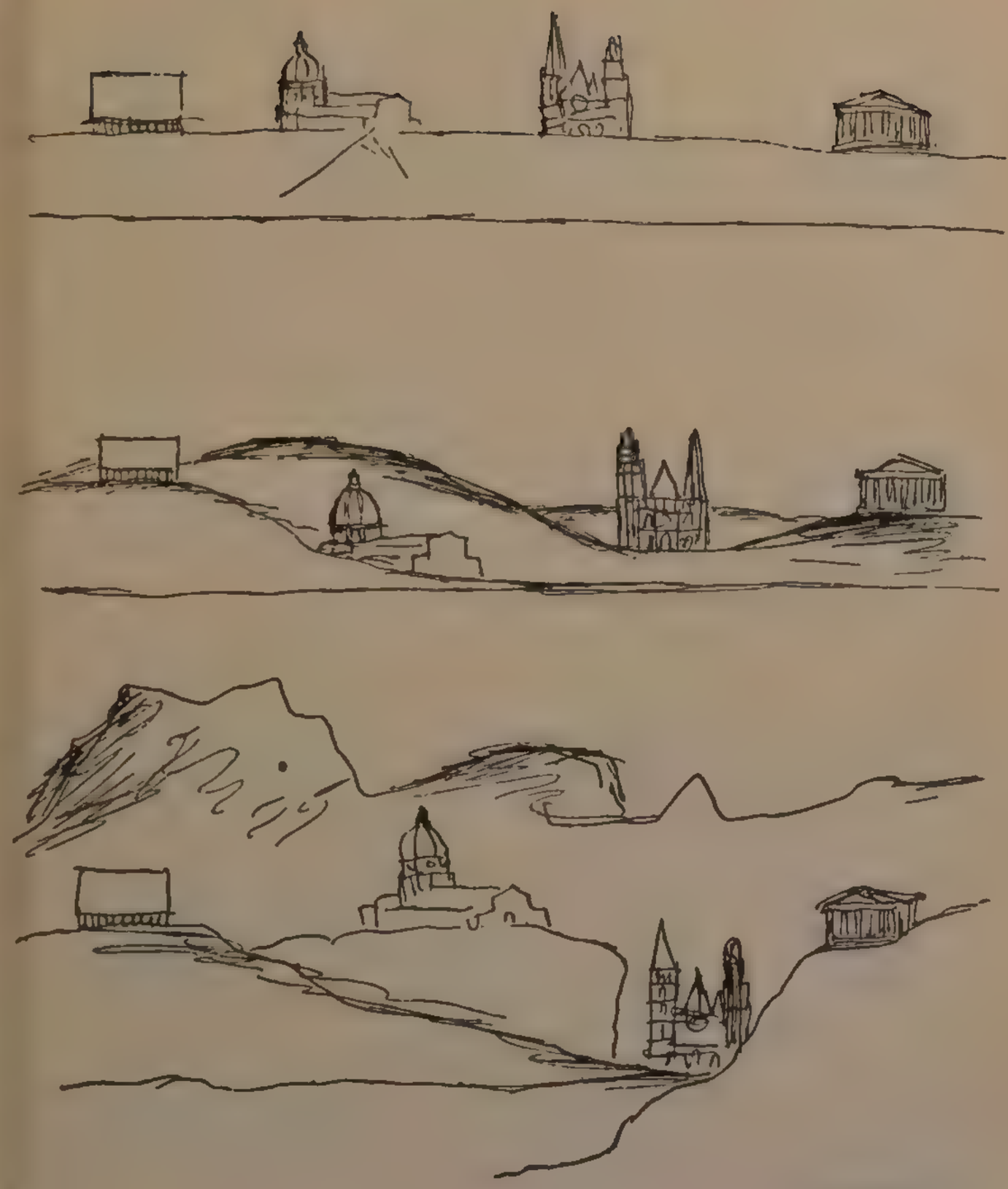
Here is posed the crucial question! It is the main armament of the reactionary defensive. The insidious question contains its own answer: "to which they will be foreign."

To accord with the countryside, there must be the spirit of accord. Accord—a sincere approach, a clear intelligence, harmony.

To attain to such qualities there must be the intention, the wish, the will to do one's best. But why should the adventure of serial production be excluded from the desire, the intention, the will to do well? To make this claim is to repudiate the chief justification for our technical civilization: the attainment of quality. . Who is so foolish or blind as not to discern, in our modern epic, that motivating virtue which is leading the world towards a new destiny? The dissemination of quality.

"WE MUST STRIVE FOR THE ESTABLISHMENT OF STANDARDS BEFORE WE CAN APPROACH THE PROBLEM OF PERFECTION" ("*Esprit Nouveau*," 1920, and "*Towards a New Architecture*," 1923). This affirmation was perhaps the corner-stone of "*L'Esprit Nouveau*."

This ninth question is gratuitous, tendentious, equivocal, and insincere. It emanates from the spirit of denigration and from eyes which do not see. The questioner has perhaps felt, without going into the problem, a possible lack of harmony, due to the absence of any sincere attempt to attain to it, and due to the complete indifference of some manufacturers as to the destination of their products: houses, or elements of houses, produced without a clear programme, with poor dimensioning, with no thought as to lay-out, etc.; but there is nothing, in the actual technique of mass production, which necessitates such an inhuman approach. On the contrary, the economics of mass production make possible a far more intense study of the problem than do the economics of individual buildings.



DRAWING 27

a

Drawing 27 shows, in three settings, certain well-known standards of human thought : the ancient temple, the Gothic cathedral, the Renaissance church, and a reinforced concrete building, all sited together on a plain, in hills, or among wild mountains. These four modes of thought live happily together in each case. And the demonstration carries another lesson : these four modes of architectural thought are all equally at home on the plain, in the hills, or among the mountains.

What accomplishes this miracle is the quality of the underlying intention, and the art which they embody. Surely it would be false to assert that the initiation of the great adventure of serial production, destined to achieve the reconstruction of France, should be void of all sincerity or goodwill.

b

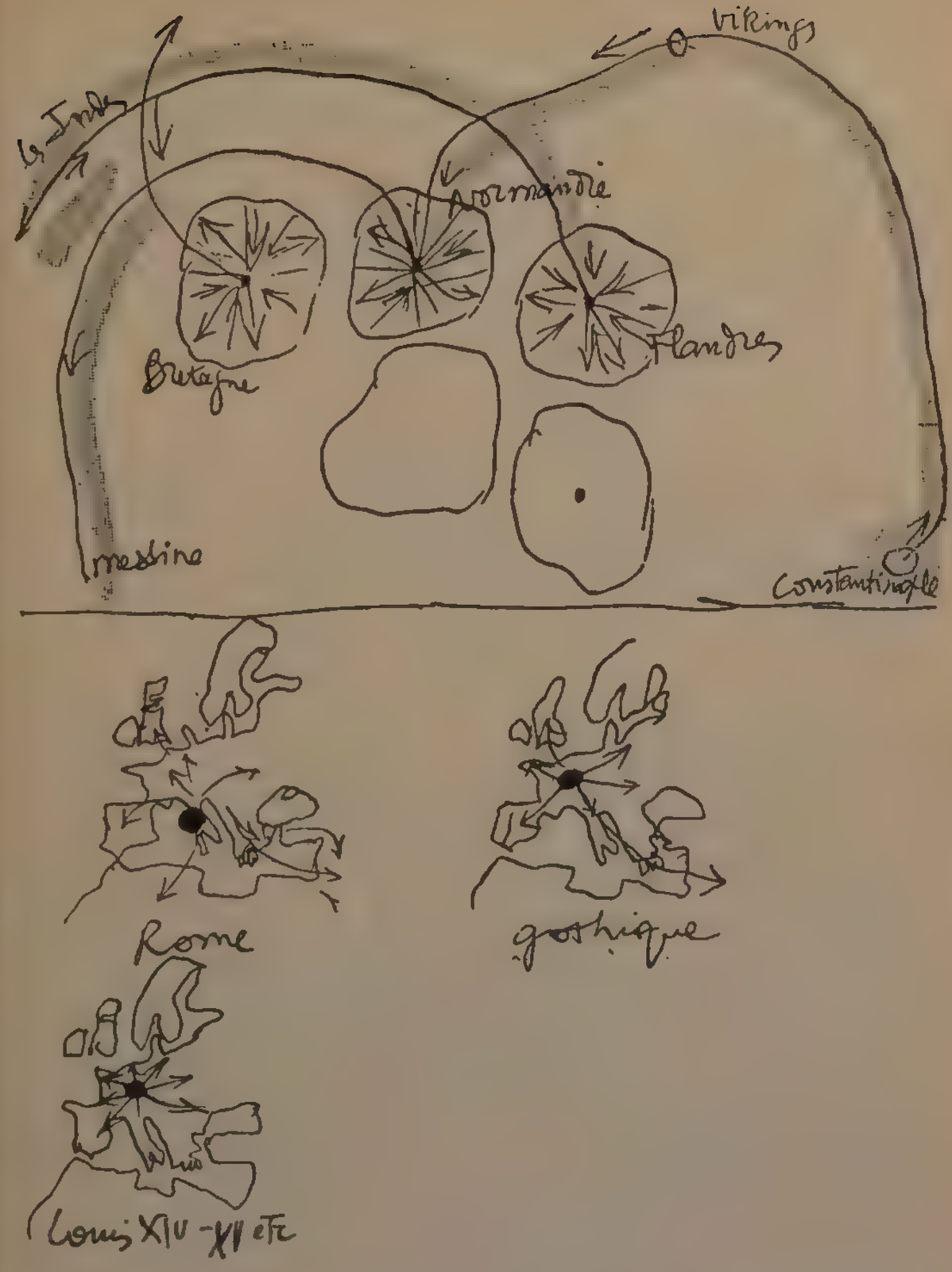
DRAWING 28

One works, one organizes, one pre-fabricates according to the dictates of the reigning spirit.

In former times, those times in which it is customary to recognize the presence of harmony, thought was attuned to the speed of life : 3 miles an hour. Information was limited to the immediate surroundings. Creation was a local activity, hence unique and hence (to judge by our questioner) also reassuring. Nevertheless, in every great hour of human history, immense spiritual currents have succeeded in bestowing a deep unity over regions extending far beyond parochial activities. The local administrative area remained small, dimensioned by the normal means of communication : runners bringing news or orders. Provinces and even regions remained within a manageable size ; Normandy, Flanders, Brittany . . . units of a legitimate and controllable extent. Through them pushed the unifying currents of the spirit, sometimes from distant sources ; for instance, Byzantine Art dominating the Middle Ages, and disseminating its forms over great distances and often over very indirect routes, such as those of the pillaging Vikings, who, sailing over the North Sea and up the Volga, bore the ornamentation of Byzantium as far afield as Messina. We have seen Rome radiate her influence. From France the spread of Gothicism, from Versailles the style of the Roi-Soleil.

Telegraph, radio, telephone. Today the far corners of the world are within call and reach at all times.

Pre-fabricated houses will come from the U.S.A. or from Sweden,



as dates come from Biskra, cod from Iceland or spices from the East Indies. There is nothing the questioner can do in this matter except to help us, all who are seeking to attain harmony, to inspire the great adventure of reconstruction with a fresh, strong spirit, and to direct it along lines worthy of our epoch, with the use of its own special techniques and astounding powers. In that resolve he may leave his little pangs, finding comfort in the spectacle of a resurgent France, once more pouring her vitalizing spirit into the streams of global cultures at whose confluence she stands, and rising after her eclipse as the sun rises each day.

TENTH QUESTION

Do you believe in a rational regionalism, which, whilst taking account of new needs, would respect in its boundaries the characteristics proper to each province, or do you advocate the adoption of a standard architecture uniform throughout France ?

DRAWING 29

An arbitrary question, which again replies to itself ! Who has ever spoken of a standard architecture uniform throughout France ?

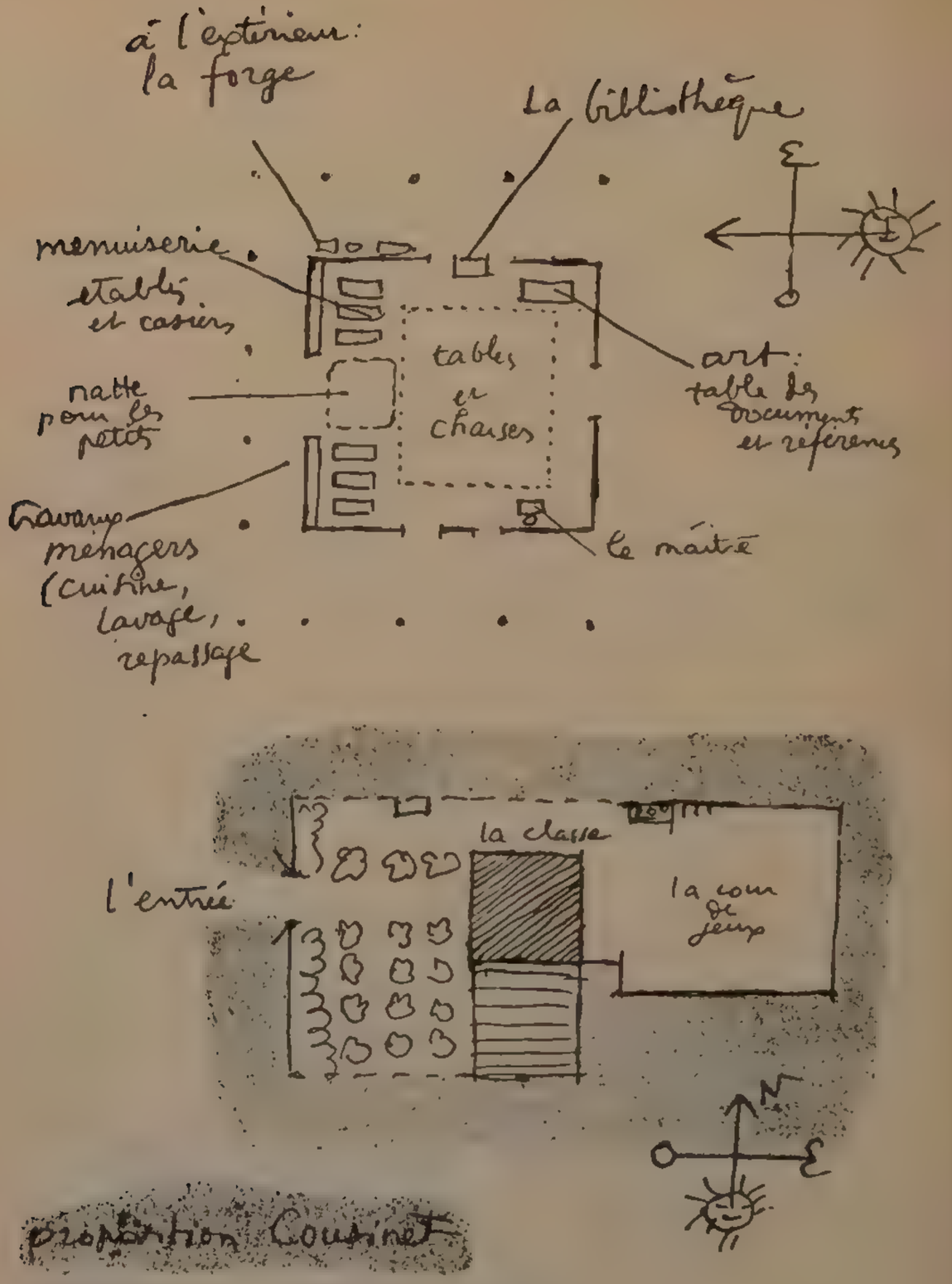
Techniques are no longer regional (Drawing 28), they have become universal : scientific books, professional reviews, universities, etc. (the lightning of thought that flashes across the world) ; materials : cement, iron . . . which are found distributed by nature throughout the world, and hence are eminently *regional*.

One has not " to respect the (architectural) characteristics proper to each province," but rather the imperative dictates of climate, the factors of topography and of the site. To take account of these factors is the chief concern of the architect, who is occupied with the creation of harmony. And if he attains harmony, there will be no risk of " uniformity throughout France " ! Each site will demand its own adaptations, leading to variations on the standard theme, nuances which conduce—I agree a thousand times—to the joy of living.

DRAWING 30

Here are the elements of a problem, which I commend to the attention of the questioner :

DRAWING 29



DRAWING 30

bibliothèque ... ... library
menuiserie ... .. carpentry
établis et casiers ... benches and cupboards
natte ... ... mat
travaux ménagers ... housework (cooking, washing, ironing)

The 36,000 communes of France share between them about 45,000 schools.

The greater part of these schools are derelict; mushrooms grow beneath the boards of the master's platform, etc., etc.

An Inspector General of Education, M. Cousinet, assisted on one of ASCORAL'S working parties who were studying the problem of "Learning to Live." His idea was that the school should be the house of the children. The class would follow out this conception by the use of the materials and equipment provided for them. The resulting class-room would thus be of a novel and precise form.

This accords well with the hypothesis of ASCORAL that modern society is undergoing one of the greatest technical mutations of history. Adaptation to tomorrow's conditions must begin in the primary school. Children's minds must be awakened to the nature of the world into which they are growing. Methods of education must be modified and in their new form diffused throughout the land.

Have we the right, at this time of change, to dream of "scholastic palaces" pompously sited in a few chosen places, whilst the mushrooms pursue their growth everywhere else? 45,000 classes are needed, in the form of 45,000 educational laboratories; all records show that this number is essential. Only by serial production can we hope to attain this target within an acceptable period of time.

And if through the achievement of new standards—splendid, impeccable, and practical standards—France should succeed in enabling her youth to flower again, will our questioner still persist in his anxiety and pessimism?

ELEVENTH QUESTION

What materials and methods of construction do you advocate?

Should these methods and materials be varied according to the region, local resources, and the nature of the ground?

The reply is implicit in what has already been said in answer to the tenth question.

TWELFTH QUESTION

How do you envisage the financing of the task of reconstruction? (This question is optional).

For the inventors, the realists, the strong, who tilt at life with courage, money dies, and with this the love of money. All money becomes a single reservoir of wealth.

What is for us clearly evident is the reality and the urgency of the building programme.

The equipment of our technical civilization, a gigantic adventure! Out of the horror of the world war there arose also some tremendous technical achievements, the fruits of mathematics and new techniques.

FINANCE? To see that the house is without walls and without a roof, its foundations shattered. To take off one's jacket, roll up one's sleeves and get started! Let the farmer farm, the bricklayer lay bricks, and the manufacturer manufacture. One eats to live; one does not live to eat. Translate into the language of finance. . . .

THIRTEENTH QUESTION

How would you solve the problem of compensation?

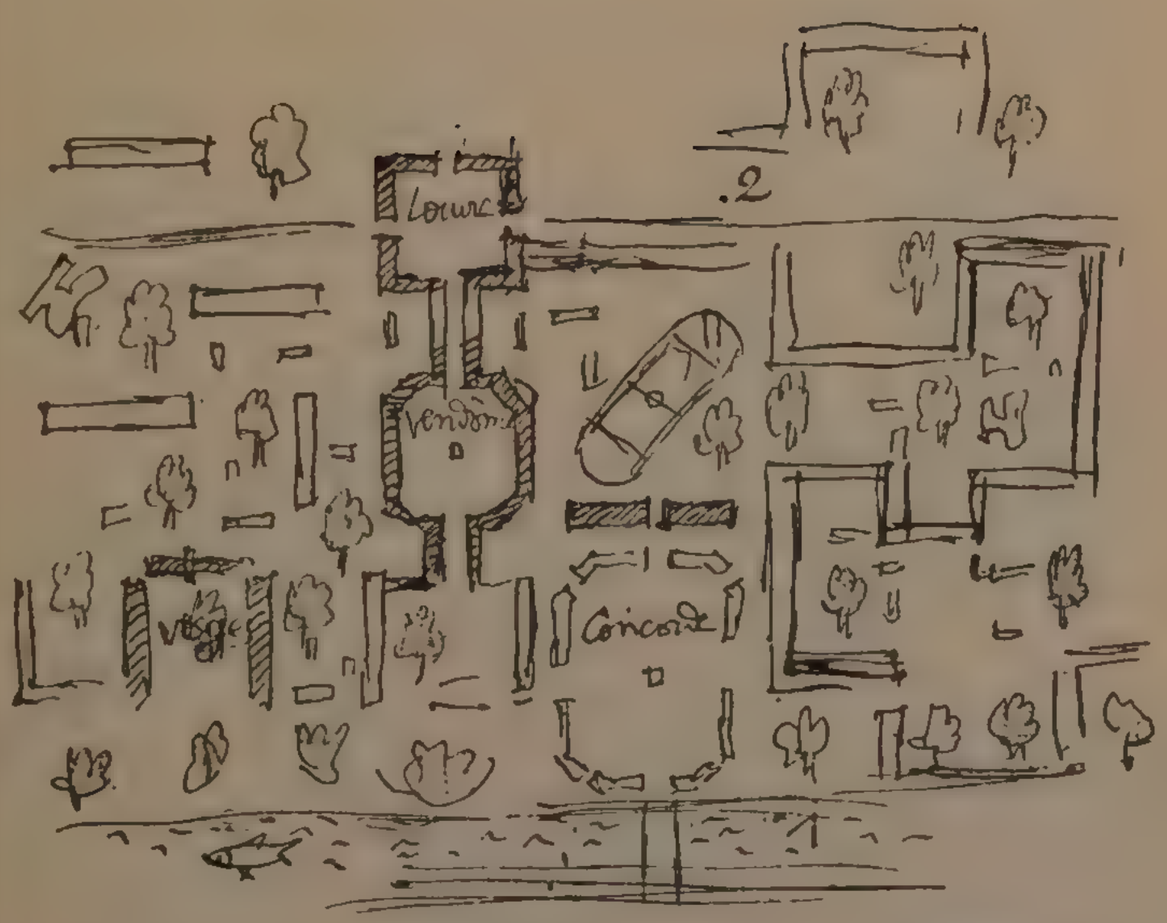
DRAWING 31

Land compensation.

The law of the land is that it shall support houses (the law of gravity) and not that it shall support the unmerited ascension of private fortunes. The land of the nation serves the common good of the people, who erect upon it their sheltered domain. The sheltered domain is an equipment designed to facilitate the activities and wise customs of the tribe: living, working, cultivation of the body and the mind, circulation.

History has left us objects of admiration whose scale and dimensions have become for us an inexhaustible source of delight or contentment: the Place Vendôme, the courtyard of the Louvre, the Place de la Concorde (Drawing 31).

The proposals of modern town-planning have led to the adoption of precisely this same scale in the dimensioning of architectural ensembles



DRAWING 31

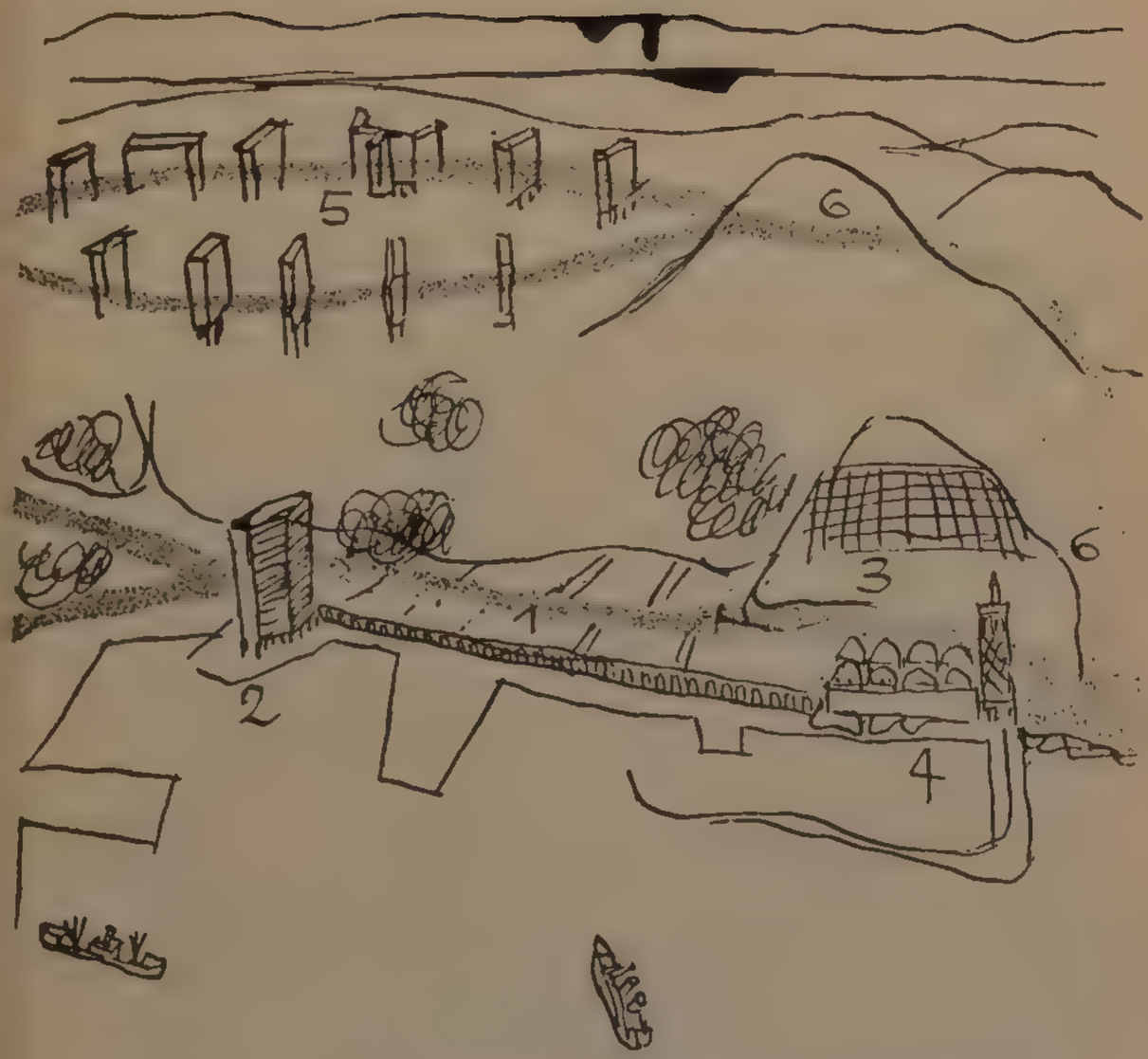
and ground plans. This happy coincidence must signify some deep relation to the human scale. Within such a space framework we may hope to attain to beauty by working with the highest ideals towards the attainment of unity.

From (1) to (2) extends a space free of vehicles—a mean distance of a quarter of a mile between two motor roads (the mechanics of circulation and access were illustrated in Drawing 26). Compensation can be seen in a new light if it is taken to mean the creation of fresh and splendid conditions of life for the townsman. This would indeed be compensation! Legal specialists will find, and have to some extent already found, procedures capable of realizing such great operations. It is rather our task, the task of the architects and town-planners and building technicians, to frame the scale and nature of the problem, and the duty of the legal specialists to solve it.

DRAWING 32

In Algiers, for example, we sought the elements of a magnificent architectural symphony : the site, classification, distance, architectural splendour.

1. The "*Plate-Forme des Anglais*" designated as a future civic centre.
2. The business city, a highly distilled architectural work fixing for the future the vital axis of the town.
3. Magnification of the Casbah (a masterpiece of architecture and town-planning).
4. Creation of indigenous institutions for the establishment of close relations between the two races and the two civilizations : French and Arabic.
5. The residential quarter transported to its natural home.
6. A bold and ingenfous routing of the motor road, establishing rapid contact between places formerly separated by the slope of the cliff, allowing interplay between widely different levels : from zero at sea-level to 700 feet on the heights of Mustapha.



DRAWING 32

FOURTEENTH QUESTION

What part of the task of reconstruction would you reserve for private enterprise? Do you advocate the principle of a directive plan and an imposed architecture or that of a system which admits to some extent the liberty of communities and individuals on condition that they submit to a collective discipline and accord with some general architectural standard?

DRAWING 33

The questioner, once more lightheartedly replying to himself along safe lines, and seeking the approvals of expediency, poses a problem which has been under discussion for a hundred years.

For fifty years now we have been making plans for towns ; for twenty years in France towns have been under an obligation to prepare plans.

But it was on the occasion of the preparation of the plans for Algiers that the principle of a *directive plan* was advanced for the first time.

But before this can be done it is essential that the customs of the people be fully understood (though on occasion, such as after the war of 1939-45, these customs may need redirecting), for the future happiness of the individual man, and in order that the wheels of the nation may begin to turn so that men will not at once seek again, out of frustration, to destroy themselves across the continents. This is a mission for far-sighted men and for those who can make their plans in advance.

These plans must be subject to the law of gravity, to the laws of human biology, to the laws of nature, and to cosmic laws. The evidence is that under such conditions man will find himself, and communities will become effective bodies. It remains to be seen which communities are now effective or what means may be found for making them so.

Passing beyond words (with which we could paper the infernal regions) let us enter the domain of real problems. The following for instance :

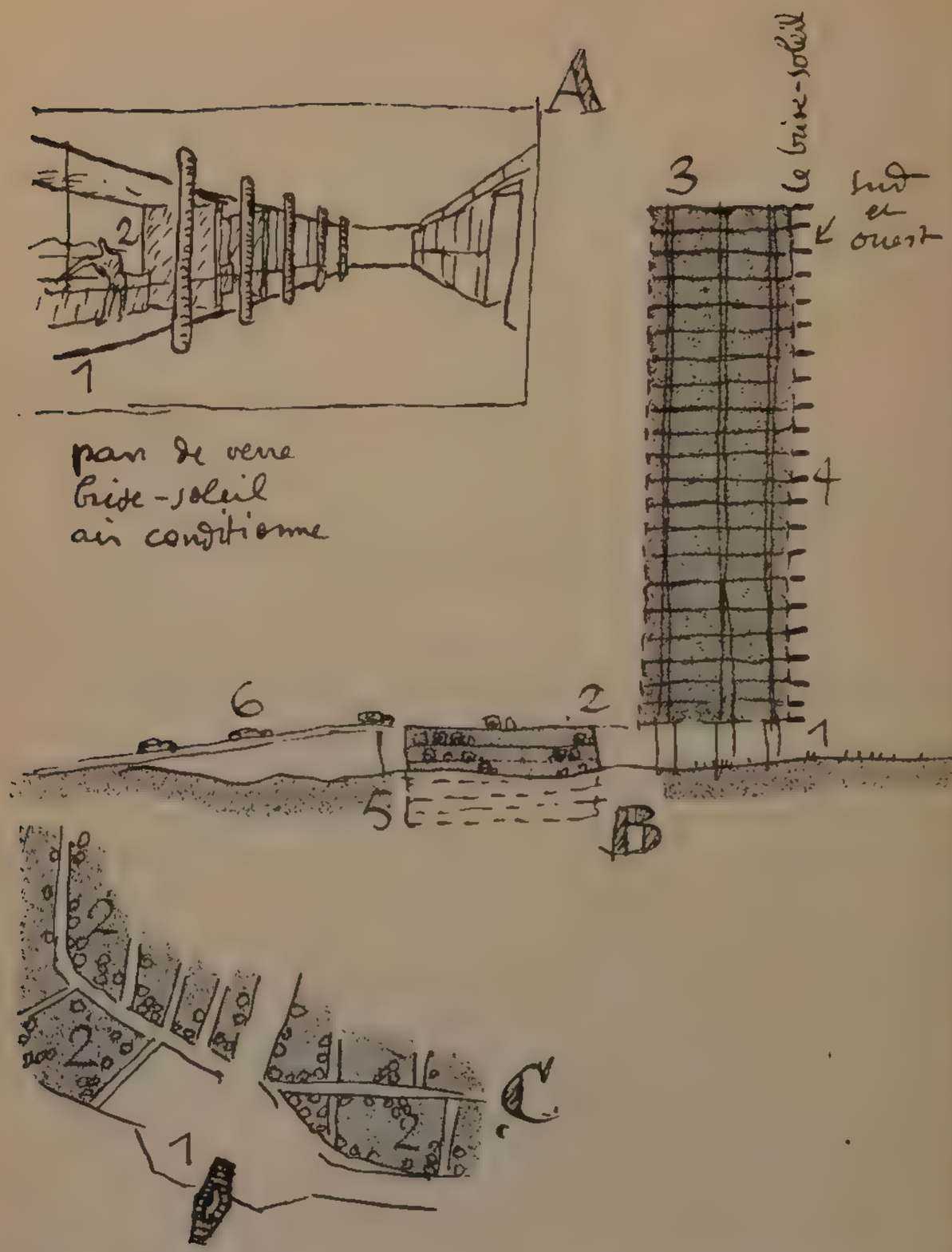
A quarter of slums or of a destroyed town.

The well-being of the citizen—townsman? Certain propositions have already been made : Drawings 19, 18, 17, 15.

How can they be realized?

1. Trace out a residential unit of a workable size (in extent and height), and acquire the land necessary for the " extensions of the

the condition of private holdings DRAWING 33



DRAWING 34

pan de verre ... glass facade
brise-soleil ... sun breaker

dwelling" (2). Put this ground out of the reach of vehicles (3, car port and motor viaduct linked to some essential and pre-existing route).

This one example having been created we may rest assured that by simple osmosis the adjacent properties will be metamorphosed in their turn. And since, through town-planning, we shall have created new and greater values, there is no reason why private enterprise should not be quick to follow suit.

DRAWING 34

Another example : the problem of achieving splendid office conditions for the immense tribe of clerical workers (private or public).

A. 1. Provision of a glass skin (light, view, space).
   2. Installation of sun-breakers (against the dog-days).

From these two elements the rentable space will acquire conditions for an optimum working efficiency.

B. 1. Stilts welcome the pedestrian.
   2. The car port, roofing in the garages and repair shops (5).
   6. The ramp making connection with a new or existing major roadway.
   3. In climbing to this height the building has created space for itself on all sides.
   4. The installation of sun-breakers. A capital new element of architecture.

C. The business centre of Algiers (1), a building 500 feet high. It can absorb the whole bulk of the offices which for 15 years have been chasing people from their dwellings, and causing a hopeless bottling up of cars (a business-man's tool of trade) in streets that were never designed for their use. These old office premises, which would henceforth be returned to domestic use, constitute an immediate and important addition to the living space of the town, and would permit the execution of great public works during the period required for the construction of the new residential quarters on the heights of Mustapha (see Drawing 32).

And the part to be played by private enterprise ? As much as you like ; but within this specific framework.

" In accordance with some general architectural standard " ? By all means, if the standard is of an acceptable quality.

FIFTEENTH QUESTION

Should French architecture limit itself to the fulfilment of purely utilitarian functions, or should it try to surpass these limits in order to leave to posterity buildings qualified by order, beauty and harmony, the signs of a civilization worthy of its name and capable of standing up to the test of time?

Are order, beauty and harmony, as certain theorists suggest, mere vain diversions and vestiges of a forsaken past, or do they constitute important factors of social hygiene?

DRAWING 35

"Should architecture be limited to purely utilitarian functions?" Let us take some examples from the files:

Agrarian life.
Farm.
Village.

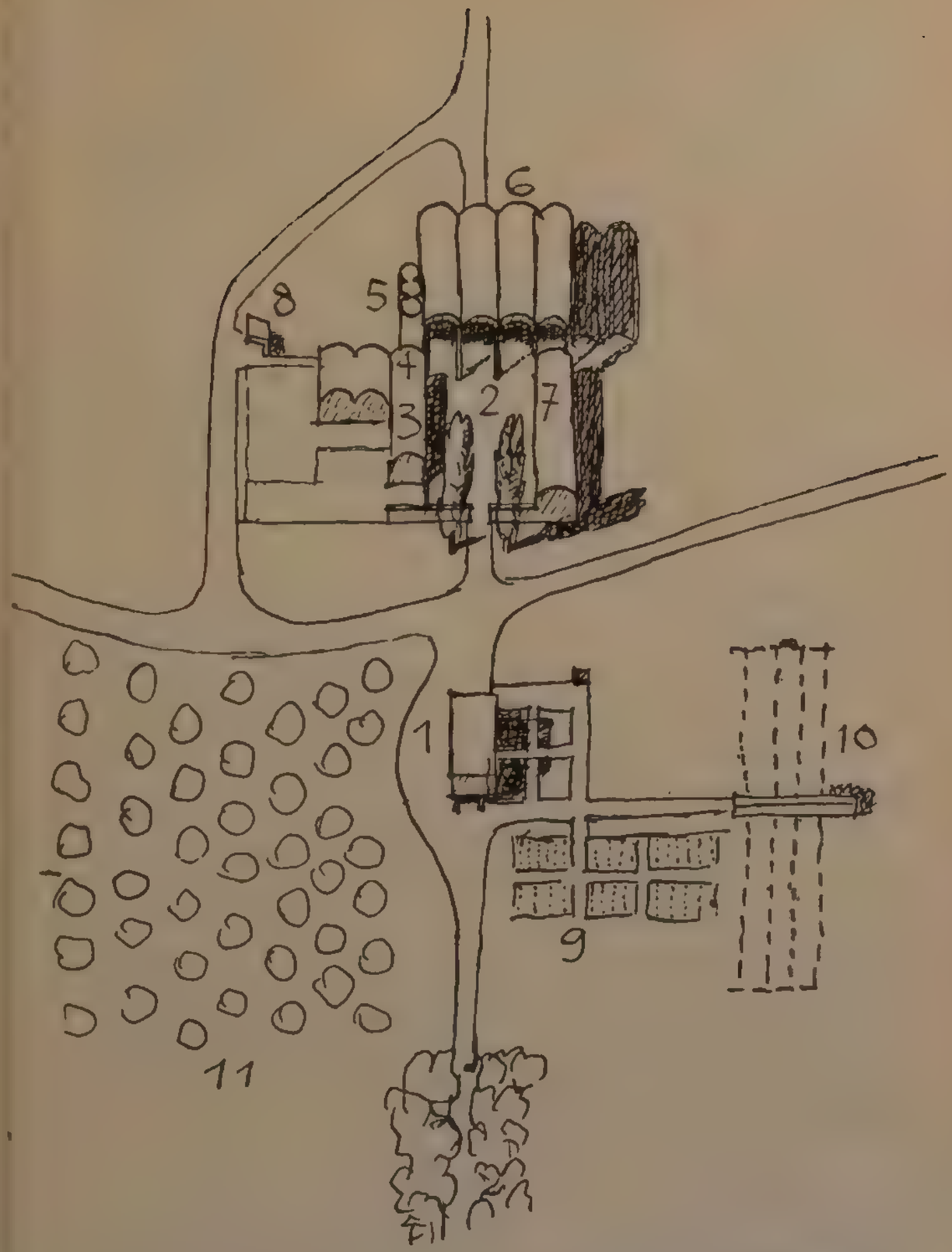
The countryside has been emptied by a deadly weariness. Dirtiness, obsolescence, inefficiency, a working day extending far beyond the now accepted standards. The essential tool of trade is defective: the farm. The whole world, little by little, is equipping itself for new standards of life: for the farm are needed water, electricity, tractors, and silos.

In 1930 some peasants from the Sarthe, led by Norbert Bézard, an agricultural labourer, came and asked me to work out plans for a farm and a co-operative centre.

They christened this project "La Ferme Radieuse."

1. The dwelling, on stilts, with its flower garden.
2. The farm-yard.
3. Stables (horses, cows, pigs).
4. Animals' food preparation.
5. "Green" silos for animal feeding stuff.
6. Barn.
7. Tool-shed.
8. Covered dung-pit.
9. Vegetable garden.
10. Chicken-runs.
11. Orchard.

Such is a worthy tool of trade to place between the hands of a peasant



DRAWING 35

from the Bocage country. Such a tool as this would bar the way against the desertion of the countryside.

Who pays? See Question 13.

Who builds? Not the vanishing race of artisans who are sung by the troubadours of a sentimental economy. The essential elements of the farm will be manufactured by industry. These farms, like the tractors they will house, are conceived as tools for the recultivation of the land.

If the earth is abandoned to itself, we shall die of hunger. The death of the land is the death-knell of the country.

Industry stands on the edge of a giant programme: the equipment of the countryside. In "what style"? Surpassing utilitarian limits in order to attain to order, beauty and harmony? Most certainly! What reason could there be for depriving the farms of these qualities. (See Question 10).

On the village, see *Les Trois Etablissements Humain* for a description of a co-operative peasant centre.

DRAWING 36

Revitalization of the Countryside

The unit of agricultural development (the area worked by the village) has need of a hall for reunions, theatre, fetes, etc.(1); committee rooms (sports, music, conferences, mutual help, etc.)(2); a council chamber and offices for the mayor, a dispensary, a room for medical consultations, etc. (3). An excessive programme?

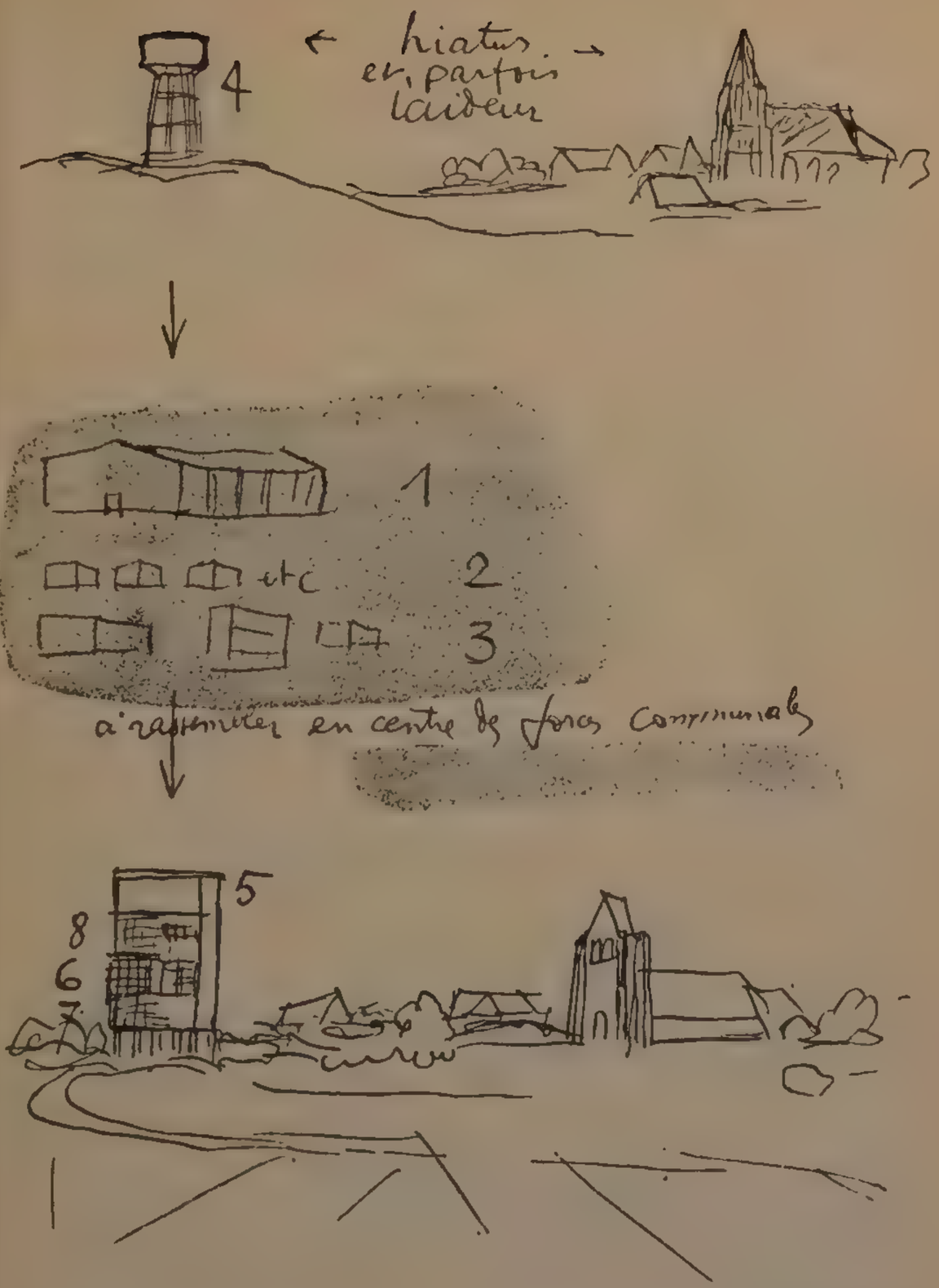
The village needs water; it may already have built (with the aid of other villages grouped around it) a high water tower on the hill, which, whilst it is not ugly, is not a thing of beauty and remains unintegrated with the life of the district (4).

Here is a proposition:

The water tower should be built in the village itself. It would be rectangular in plan and the cylindrical water tanks would be housed on top (5) within a rectilinear envelope. Between the columns carrying these reservoirs, and below them, would be installed the committee rooms (8), the mayoral offices (6) and the suite of necessary common rooms (7).

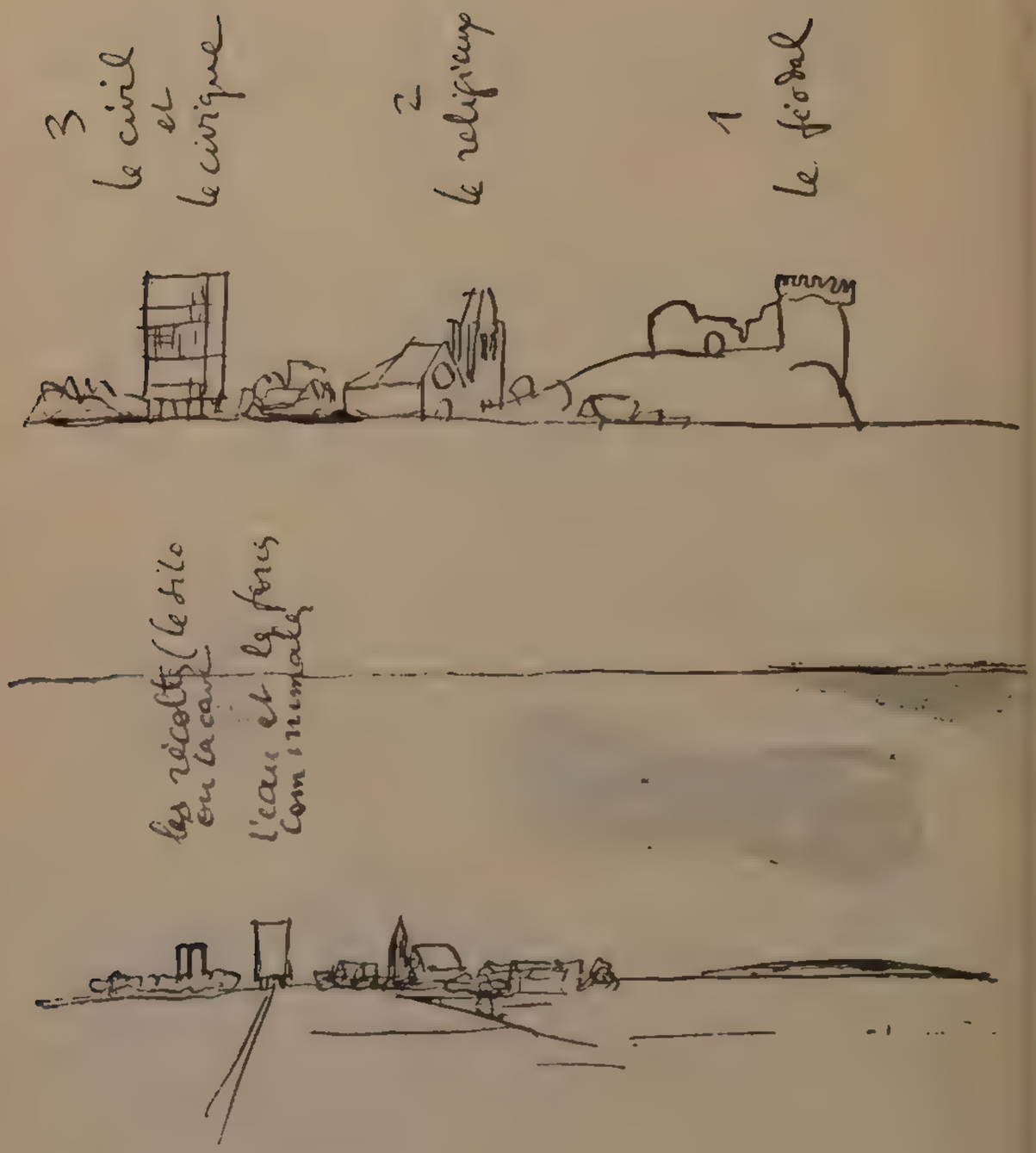
DRAWING 37

Here, throughout the land, we may see a new architectural sign standing above the meadows, the stubble-fields, and the pasture-lands. A civic



DRAWING 36

hiatus et parfois laideur ... ... disunity and sometimes ugliness
à rassembler en centre des forces communales ... the forces of the community are gathered into a single centre



DRAWING 37

le féodal ... ... the feudal castle
les récoltes (le silo ou la cave) ... the harvest, in silos or in cellars
l'eau et les forces communales ... the village water tank and the centre of community life

sign ; the centre of civil forces. It will come, in the twentieth century, to stamp its vigorous sign over the countryside of France, in Provence, as in Beauce and in Brittany. . . .

The castle in ruins on the hill : or the chateau, still spruce and still alive.

The church.

And now the newcomer, civic and civil. From afar, one sees it marking the end of the road.

Its construction will be an important act in the reawakening of the earth.

DRAWING 38

Utility, order, beauty and harmony. . . .

The little town was before . . . petrol !

Yes, petroleum has gushed ! Important consequences may follow, capable of disrupting those beautiful tracts of country which were formerly the domain of the farmer and the occasional tourist. This must be watched and controlled.

1. The mayor of the little town aspires to see the population doubled in order to be able to pay for the provision of water and a respectable *mairie*.

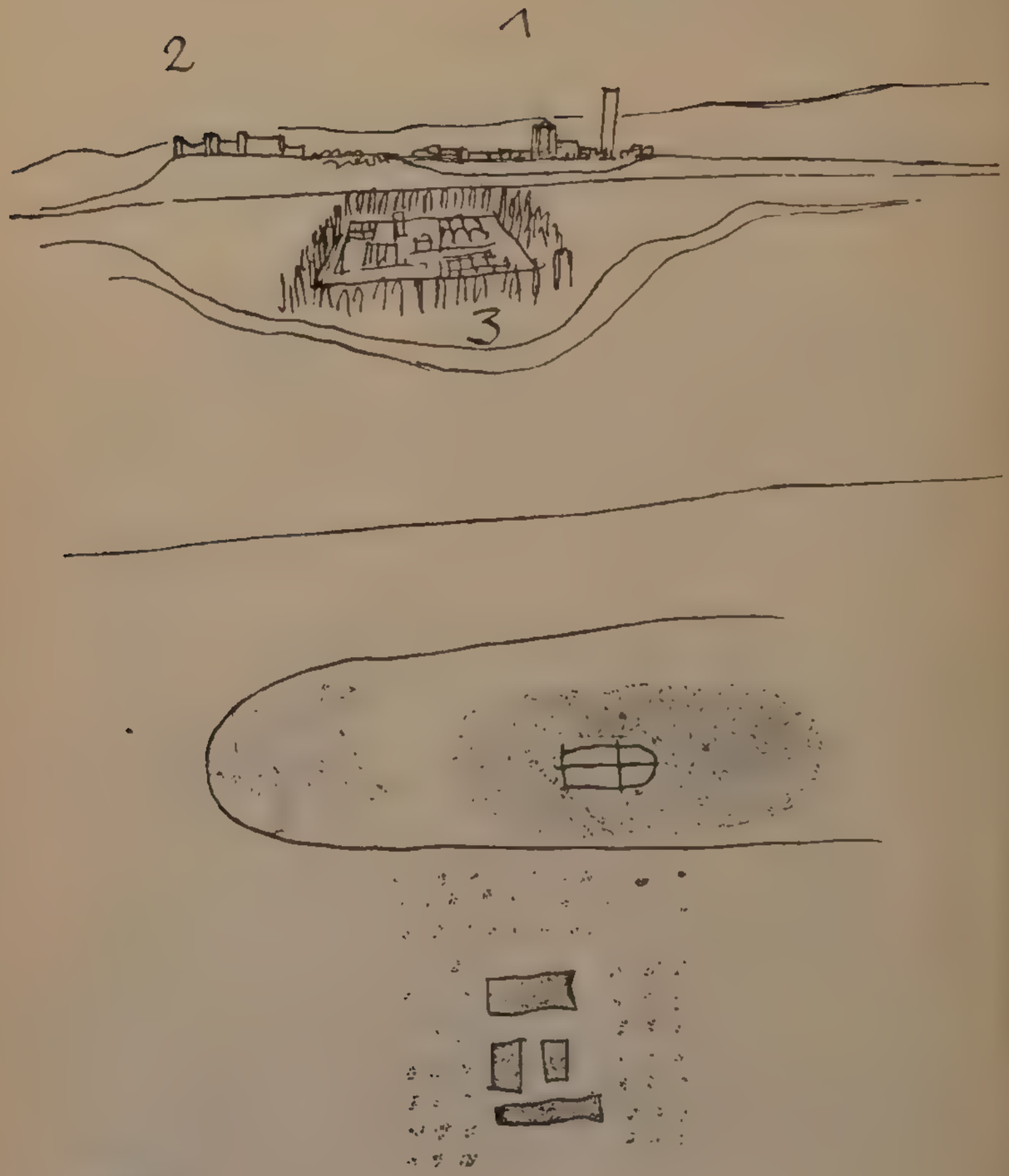
One sees the profile of the new building of civic forces enter into composition with the old church.

2. Where are the five thousand new inhabitants to be lodged ? There is a site on the brow of the hill (and the buffets of the wind will do no harm) which commands the countryside they live upon : a single dwelling unit can be built there, furnished with common services, open to majestic horizons, equipped with sun-breakers and wind-breakers, and sealed within a glass skin (what then would the winds matter anyway?).

3. The industrial establishments would be duly laid out near the railway and treated on lines already described. (Drawing 21).

The reader may appreciate that we are hardly theorists who hold the qualities of order, beauty and harmony as vain diversions. Their attainment is rather the true aim of all our endeavours.

It may even be said that such theorists do not exist, apart from those who, against all the evidence, hold that the useful and utilitarian creations of today are incapable of attaining to order, beauty and harmony. Such people have capitulated before life. They have no right to encumber the scene with their gesticulations and their palpitations of the heart.



DRAWING 38

SIXTEENTH QUESTION

Can you define the mission and set out in a few words the doctrine of contemporary architecture?

France is a country of builders.

A land of inventors: Romanesque, Gothic, French Renaissance, the classicism of kings, steel and glass in the nineteenth century, reinforced concrete.

Here we have always respected the human scale and loved the smile in things.

The country is concentrated on Paris, the head of France and a city of the world. Intense debates on vital matters are waged incessantly there. Through all the torment and the fever of the industrial revolution, France has preserved standards of taste and the joy of living. Immense misfortunes have fallen upon her. Her geographic and moral position made this inevitable. She plays no mere accessory role upon the earth; she has perhaps distributed her riches wisely in leaving the land to its own destiny and concentrating almost the whole of her efforts upon Paris. On a global scale, Paris, as the eye of Europe, presages the gravity of the future responsibilities of France.

France was drowsing; even the strong and the passionate can, at times, be overtaken by sleep. She had a hard awakening. So be it!

In France all has been broken, the four routes of earth, water, iron, and air. Her towns and her villages. Bridges, ports and factories. She has been robbed of food and of furnishings. She was rich but now she is quite poor. She has been demoralized. She has been tarnished by tragedy. Poverty and her legendary spirit of improvisation have installed the black market. She had been courting the great Academies. Above all in the realm of building she allowed the profession of architecture to bleed itself white. The schools did not teach the architecture of the dwelling—the palace of the hours of one's life. Town-planning of a quality that could express the heart-beat of our epoch was ignored. It was left to "outsiders" to achieve the creation of the dwelling and the city of today. ("Modern art" of 1900, architecture and furniture which appeared in a thousand connected manifestations: painting, sculpture, music and modern poetry). The Ponts et Chaussées, so brilliant in the nineteenth century, when they equipped France with her splendid routes of road and rail, had, due to lack of care, and the thoughtless inattention of engineers and highly placed administrators, aided the diseased extensions of tentacled cities. Then all was shame, hiatus, and incoherence. By the "realm of building" we include all its extensions which, taken together, constitute the house of man: living,

working, cultivation of the body and the mind, circulation. The Order of Architects was founded not to agitate against this decadence, but to erect a barrage against life which threatened to violate the conventions of idle academicism. If they had opened the book of life at the page of today, they would have read the word " attack " ! What was necessary was to unite and to set the BUILDERS each at his station, some for the bridge and the barrage, and some for the temple. Such a practical approach would have accomplished a task in the true French tradition, the setting in material and spiritual order of the built domain. All these tasks are interconnected, like the segments of a fan. Unity through endeavour, rather than separation by defence, was the need. The engineer, the architect, and the administrator have to accomplish a task which is common, unique, and indivisible.

DRAWING 39

Altogether, they have to establish a lawful code of land utilization, the " law of the land." The land of a country cannot be occupied without control. Existing controls are out of date. They have produced the towns that blight the white civilization : corridor streets, light wells, deserts of stone and tentacled cities (1).

2. The essential first step is to establish a sensible scale for plans. The distance covered by an hour's walking is a surer measure than abstract numerical scales.

3. Satisfaction of the demand : " sun, space, verdure."

4. A fixed relationship between built-over ground and free ground.

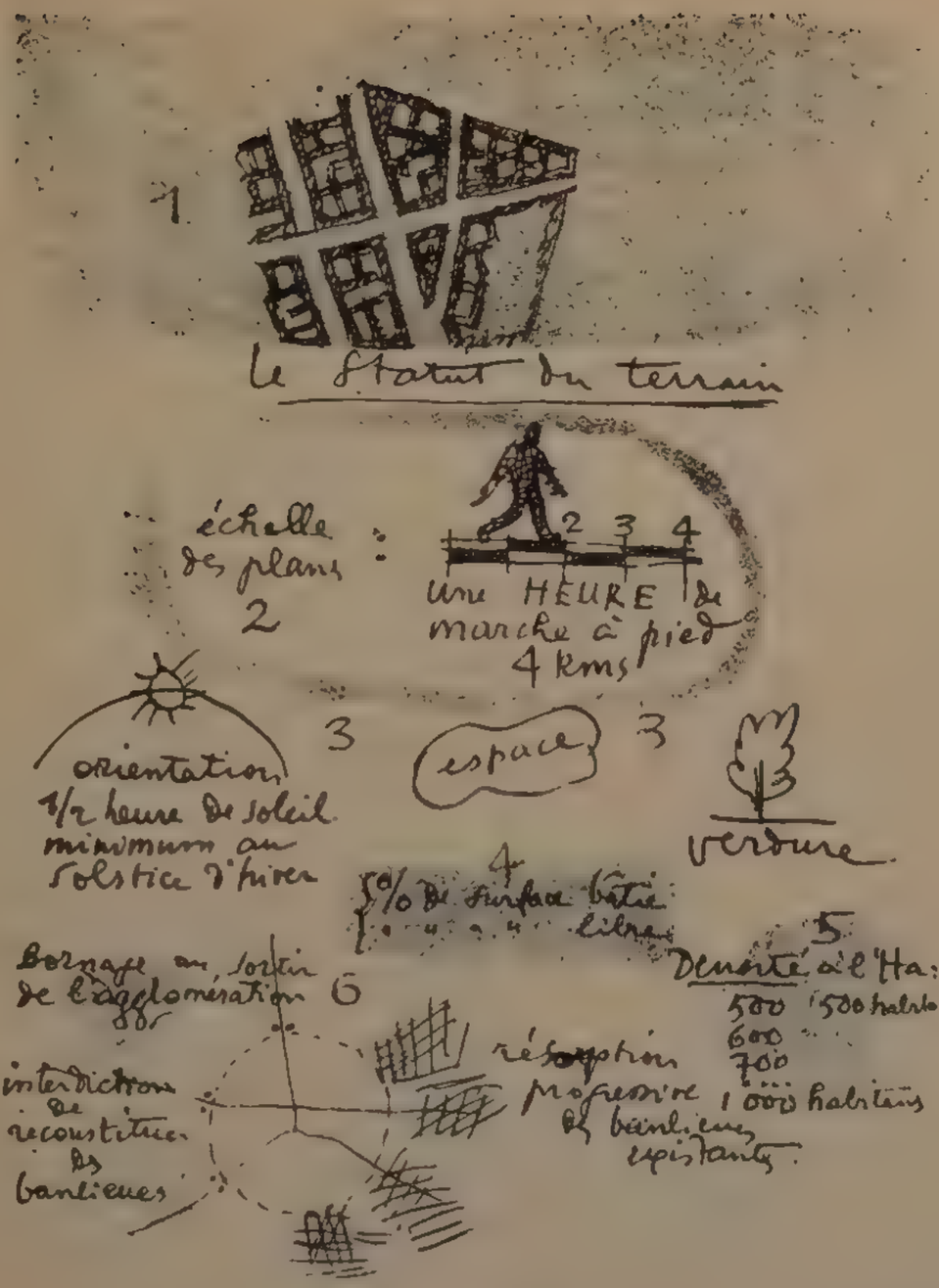
5. Standards of density which will determine the use and the character of built-up areas.

6. The limitation of conurbations, establishment of a maximum perimeter for a town, preparations for the progressive reabsorption of the outskirts and parasitic suburban growths.

The U.S.A. built their Liberty Ships. Now they are preparing to produce each year a million and a half model family houses, all admirably equipped. Each soldier, with his demobilization gratuity, will be able to buy his house completely furnished. The already unlimited suburbs of New York and Chicago will receive the addition of more unlimited suburbs. Yet another town-planning catastrophe ! What matter ! The heightened effervescence in buses and underground railways and on the trains adds to the fun of American life ! The great wastage of garden cities will rage once more ;* waste is a law in this land of abundance. Without waste there would be an economic catastrophe. Such opulence is not without danger !

France needs to conduct her affairs otherwise, wasting neither mer-

* See *Quand les Cathédrales étaient Blanches.*



The Law of the Land — DRAWING 39

échelle des plans	a scale for plans
une heure de marche à pied 4 kms	one hour's walking, 2½ miles
½ heure de soleil minimum au solstice d'hiver ...	minimum of ½ hour's sunlight in midwinter
% de surface batie	% of built-over land
% » » libre	% of open land
bornage au sortir de l'agglomération ...	boundary-zone limiting urban spread
interdiction de reconstituer des banlieues ...	ban on re-establishment of suburbs
résorption progressive des banlieues existantes ...	progressive absorption of the existing suburbs

chandise nor the lifetime of her people. Her state, her present poverty, her traditional spiritual equilibrium demand it.

A flood of American housing threatens us also : Liberty Ships will bring us houses with frigidaires and adorable kitchenettes. We must collect ourselves, and understand what we need. Let us accept the frigidaires and the kitchenettes, but forbid the dissemination of little houses over the land, which can only heighten its present fever. Let us admit pre-fabricated *elements* of the house but not pre-fabricated *houses*. If the Liberty Ships bring us pre-fabricated elements, we can weld them into impeccable dwelling units furnished with all their extensions and common services designed to liberate our wives from domestic slavery. Thus we shall gain free hours, and using them wisely for the cultivation of the body and the mind, our days will be divided between these social activities and brief but intense spells of work.

DRAWING 40

Our American friends have erected sky-scrapers and made them work. They are constructions of an astonishing technique, tangible proofs of present possibilities. But, from the planning point of view, their sky-scrapers are tiresome and their towns wretched to live in (though vibrant and meriting the closest attention). Let us in a friendly spirit oppose to them the Cartesian sky-scraper (D), and the dwelling-unit set in verdure (C), which together constitute a relation of volumes new to town-planning. Instead of multiplying innumerable suburban houses (E) let us equip ourselves with impeccable dwelling-units of an appropriate stature (F).

DRAWING 41

Let us read the vital currents which flow through our land : the great radio-concentric exchange centres have specific functions to accomplish, and only buildings designed to conform with these functions can permit their efficient discharge. We must erect along the crucial meridian of our economy, crossing the breadth of France, these new volumes : a, b, c, d.

The Allies won the war by blows from the air. We well remember the thrumming drone which filled our sky.

For the time of peace, they are preparing vast aerial fleets, which will produce an unimagined upheaval in the transport of men and goods. We need not lose our heads. The skies of our towns will be full of the roar and the whistling of aircraft. And if one day the physicians and the mechanics succeed in annulling the racket the skies of our towns will remain no less encumbered with engines, far and near, like the monstrous

DRAWING 40

DRAWING 41

white mice that fill the skies of the fantastic paintings of Hieronymus Bosch.

Since the first National Congress of French Aviation, in April 1945, aircraft have been banned from the skies of French towns.

The war has turned a new page, that of the aircraft, with its extraordinary speeds and its routes as straight as the trajectories of missiles. Enthusiasm and ingenuity join hands to prepare splendid berths for these machines : airports. Each town will claim one, according to its needs and rights.

It is dangerous to prophesy so soon after the event. But at least we must try to see whether the three human establishments of our technical civilization, hitherto founded upon the three routes of earth, water, and iron, will find their futures foreclosed or fostered by the fourth route, that of the air.

DRAWING 42

Revitalization of the countryside : the unit of agricultural development with its co-operative centre (1). At (2) is the autogyro base at the disposition of the countryman who, for purposes of administration, must preserve contacts with the outside world (assemblies, congresses, etc.), or for all who have simply acquired a taste for enlarging their horizons.

Throughout the length of the linear industrial city alternate airports (3) and sea-plane bases (4).

The radio-concentric cities have their airport (5).

The little town will have its autogyro base (6). But the roofs of dwellings will be forbidden to aircraft, for the aircraft must never be allowed to become the frenzied toy of the hothead, who has no right to trouble the life of his neighbours. Our mechanical civilization must end by becoming master of itself, by the attainment of calm and serenity, with men living once more in conditions of nature, and moving on foot over spaces henceforth dimensioned on an adequate scale.

Such is one of the messages that France has to give the world, in an hour when the most frenzied measures may otherwise be passed through lack of foresight.

At the approaches to a synthesis.

Freight aircraft are planned for cargoes of 60 tons for trans-ocean and trans-continental crossings. They take the air, one carrying specialized merchandise and the other specialized people. Where are they bound ? What networks will their routes establish ?

The studies of ASCORAL ended by the recognition of three normal modes of land occupation within our technical civilization : the unit of

agricultural development, the linear industrial town and the radio-concentric exchange-city. The linear industrial city extends from the Atlantic coast to the Urals with crossings from the seas of the North to the seas of the South. It is within this network that industries are being transformed. It is there that the specialized merchandise is being manufactured. It is there that the specialists are working on a task which will become more and more universal : the manufacture of lawful and fruitful goods. The network of linear cities embraces certain eternal and fateful centres established by geography through all time, the radio-concentric cities. There also the cargo boats of the air will land.

DRAWING 43

So one sees how the fourth route, the route of the air, takes its shape. It confirms the existing pattern set up by the three former routes. We have arrived at the approaches to a synthesis : the intense and sparkling linear cities ; vast tracts of land revitalized by new institutions and rescued from the disgrace and tedium of grime and crushing labour.

A sparkling intensity, a vast deep reservoir of life, a calm life, free from fever ; such are the crowning rewards of town-planning proposals realized through the use of powers acquired by former societies.

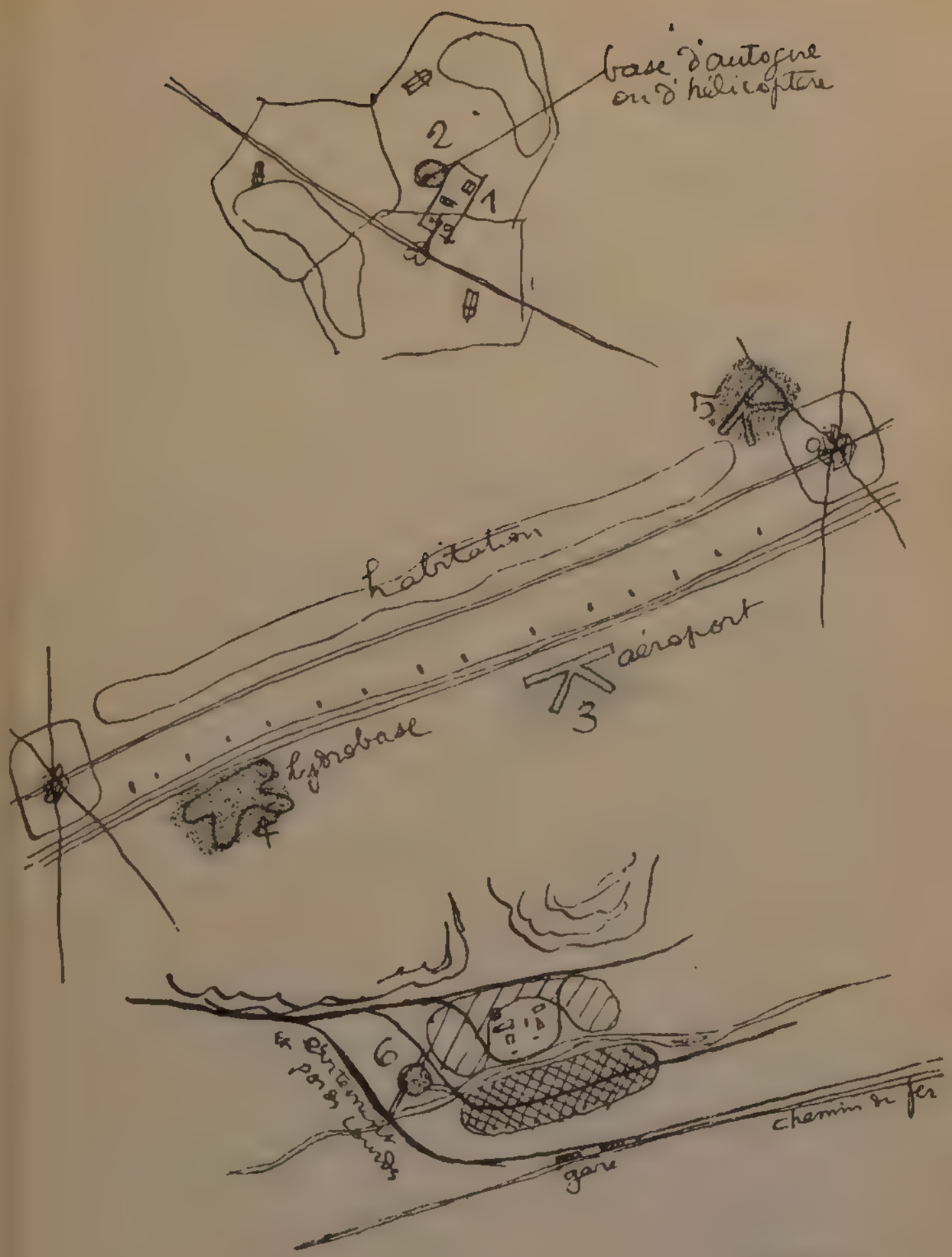
The first and most fundamental need is for hale men who can be fed into the great and beautiful furnaces of modern thought and work.

Instead of endangering agricultural regions by the dispersal of industry, we must establish a framework conforming realistically to the nature of things : the farm-worker is bound by an annual rhythm (365 days, and the four seasons, year after year) ; the industrial worker by the solar law of a twenty-four hour day.

Order must begin at the very source of activity.

Measures must be taken within the geography of Europe the effect of which will be to join and to unite, and not to multiply the gun-muzzles along frontiers which are ready for dissolution before the sap which is thrusting from the future.

This is the message that France can carry, if need be, to the international conference tables to assist in the emergence of a harmonious world from the chaos into which a foolhardy inattention has plunged us. Our snail's shell had become too small, we were left without any real shelter. It is time to leave it and build another.



DRAWING 42

DRAWING 43

où atterrir ? ... where to land ?

SEVENTEENTH QUESTION

Do you think that French architecture could and should, whilst profiting from the conquests of modern techniques, reabsorb modern formalism and the primitive worship of machines to create, without imitating the past, without leaving its epoch and abandoning its logical character, a classic living Order, a new humanism founded on the respect of the individual and the human scale, that is to say on man, " mensura rerum " ?

It is of us others that the questioner is thinking, as, crouched behind his seventeenth question, he talks of his hopes for the " reabsorption of modern formalism and the primitive worship of the machine." He is dreaming of an art which will please all the people all the time, and which will offend no one.

We are the danger (the violaters, the barbarous and primitive spirits). He is disturbed by the machine, terrified by mass-production, he has a fear of certain theorists who (he avers) regard order, duty, and harmony as vain diversions. . . . He dreams of a new classicism. . . .

One does not decide *a priori* on the formula of an art which may one day deserve to be pronounced classic. When an art has been made (its works standing, and time judging) it will be classified or it will not. And twenty years or three centuries afterwards it may become known as " classic."

The " classic " of the questioner corresponds alarmingly with the intentions and activities of the presumptuous Academies : " we are the arbiters of taste ; we decide in advance what forms of art *shall be* classical." It is grotesque !

The questioner evokes :

" A new humanism.

" Respect of the individual.

" The human scale."

Have we not endeavoured with all our faith, with all our heart, and with all our reason, to achieve those very aims, in the course of all our works dedicated to the loving study of our good brother man (and now in launching into the world this little book on town-planning) ?

EIGHTEENTH QUESTION

What part of the work of reconstruction do you reserve for painting and sculpture? How do you conceive the relations between the three arts?

These relations seem to us so intimate that we find it natural to see certain constructors practising in themselves such a synthesis of the major arts. Personally, we practise all three arts, on account of which we receive many severe judgments: "He is a painter who plays at architecture"—"It is the painting of an architect." Many thanks!

In the epic of an architecture now emerging from the womb we can already read the signs of a resynthesis of the major arts. ASCORAL, in its statutes, announced its aim thus:

"The establishment of a coherent doctrine of ground utilisation and in particular of the sheltered domain and its extensions (of which the effects may pervade the whole territory—town and countryside) which will respond to the four functions: living, working, cultivation of the body and the mind, circulation."

The last section of work on the programme of ASCORAL was titled: "Synthesis of the Major Arts."

Conclusion

. . . . Cultivation of the mind.

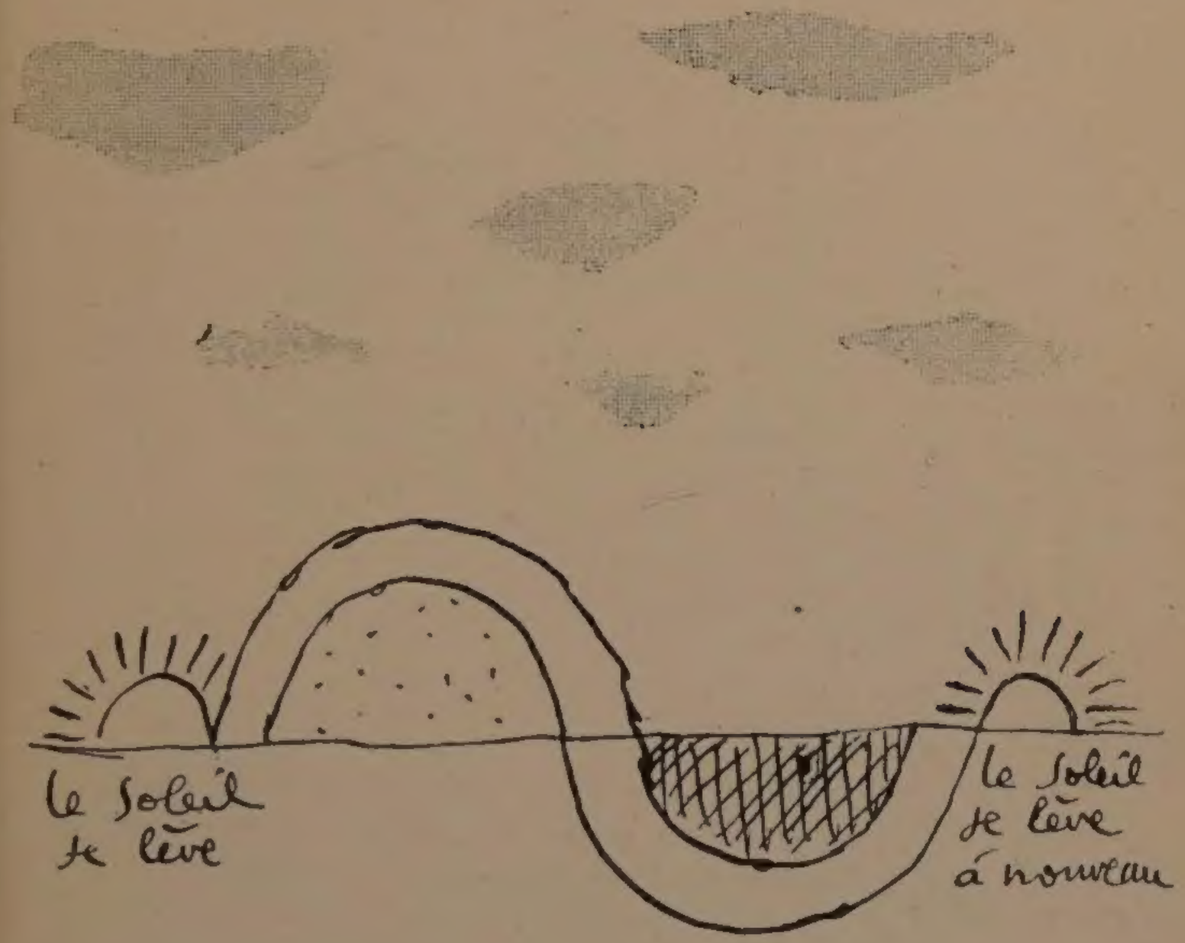
From the depths of pre-history until the epoch when architecture was allowed to die, when the Grandes Ecoles crowned the studies dictated by the Academies with gilded diplomas, the synthesis of the major arts had been spontaneous and natural: architecture, painting, sculpture; that is to say geometry and the grandeur of mathematics or the more sensuous representations of being. Man and his consciousness of himself and his consciousness of the universe. It all held together.

We have still to learn the language that we have to speak. Gone are the metopes, pediments, tympana and even modern capitals. There will be different things, since the form of the sheltered domain is new. It is built otherwise than before and our technical civilization will express its own sensibilities. With what violence, with what eloquence, and with what prodigious invention over a span of 40 years, has cubism already budded and flourished.

"Art: the physical expression of psychic movement in the special mode of plastic creation; (psychic here signifies flowing from the heights of consciousness and exteriorized with a characteristic sensibility);

"An obsession with the inscription of emotions in plastic characters;
"a special kind of malady; or
"a special kind of grace."

On this last note let us end these town-planning proposals, written to persuade, convince or awaken, if necessary, our contemporaries.



la journée solaire de 24 heures : ... ... the twenty-four hour solar day
mésure de nos entreprises urbanistiques : ... the measure of our town-planning adventures